HS2 Manchester Piccadilly

Strategic Regeneration Framework

Draft

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Bennetts Associates
Architects

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Key

1 HS2
2 Existing Piccadilly Station
3 New civic arrival space
4 New shared concourse and air rights development
5 Tall buidlings mark arrival of HS2 into Manchester City Centre
6 Piccadilly North
7 East Village
8 Piccadilly Central
9 Piccadilly Heights
10 Mayfield
11 New Northern Hub platforms
12 Piccadilly Gardens
13 New Islington
14 Etihad Campus
15 East Manchester
16 Ardwick
17 University
18 Sackville Gardens
19 London Road Fire Station
20 Holt Town

The arrival of HS2 into Manchester will be the catalyst for a 'once-in-a-century' opportunity to transform and regenerate the eastern side of the city.

Adjacent to a state-of-the-art public transport node, a new district called Piccadilly Central will create a distinctive sense of place and contain over 14 million sq ft of mixed-use space.

In January 2013 the UK Government announced its commitment to Phase 2 of High Speed Rail 2. The delivery of HS2 will provide a massive economic boon to the cities of the North of England. The proposals in this study offer a structured approach to capturing and passing on those regeneration benefits.

View towards Piccadilly from City Centre

Key

1 Existing Piccadilly Station
2 HS2
3 New Northern Hub Platforms
4 Study scope

Executive Summary

Purpose of the Study

Following the government announcement about Phase 2 of HS2, Manchester City Council (MCC) and Transport for Greater Manchester (TfGM) commissioned Bennetts Associates to carry out an initial appraisal of the following:

- Regeneration potential for the area around Piccadilly (outlined in red), with a particular focus on the area to the north of the station
- Integration of the current proposals for Mayfield (also created by Bennetts Associates)
- Urban design drivers for the station itself, plus aspirational ideas for the creation of a world-class transport node

Regeneration Benefits

The delivery of High Speed 2 (HS2) will bring major regeneration benefits to the region, the city and the area around Manchester Piccadilly. In particular, the Strategic Regeneration Framework illustrated in this report anticipates the delivery of the following benefits:

- The connectivity associated with a best in class multimodal transport hub
- 4,500 new homes
- 625,000 sqm of commercial office space
- 100,000 sqm of retail space
- 1,000 new hotel rooms
- The creation of numerous high quality public spaces
- A string of cultural and community use buildings

The spatial strategies that are the focus of this report have been developed with the aim of helping pass on further regeneration benefits to the wider city and sub-region by:

- Improving the attractiveness of investment in neighbouring areas
- Radically improved physical connections and permeability
- Providing new destinations for social and cultural activities

The Team

Bennetts Associates - Lead Architect
Jones Lang LaSalle - Commercial Advisor
Mace - Quantity Surveyor

The scope of the study includes the areas around Piccadilly Station that will be most immediately impacted upon by the arrival of HS2

Key

1 HS2 Platforms
2 Lower Concourse
3 Parking
4 Carriageway
5 Walkway
6 Cycles

Piccadilly Boulevard - a major new urban thoroughfare that utterly transforms the character and connectivity of the area. In so doing, it links a chain of new public spaces, provides a threshold to the HS2 station and a frontage for the Piccadilly Central district.

Priorities

This study has highlighted a number of priorities which HS2 Ltd should address. From Greater Manchester's perspective these are the "must haves" for the proposed scheme.

- A station and rail infrastructure of genuinely world class architectural quality
- Bring HS2 right to London Road. The new platforms and station must come into the heart of the City Centre.
- A real sense of impact on arrival into Manchester must be created.
- The formation of a dramatic new Boulevard that connects three new public spaces - the civic arrival space on London Road, a new public square positioned where Metrolink exits the station and a new city park at the eastern end of the station.
- Connections between the areas to the north of the site (Piccadilly Central) and the south (Mayfield) must be retained and enhanced.
- Appropriate parking provision must be provided and will be carefully incorporated into the surrounding area; avoiding pockets of "dead city".
- The station should provide destination quality retail and leisure offers. In particular, all street frontage should be animated with publicly accessible uses.
- The station should incorporate and promote clear and vibrant connections to neighbouring areas including Mayfield, The North Campus and Piccadilly Central.


Key
1 HS2
2 New entrance plaza on London Road
3 New boulevard connecting London Road to Fairfield Street
4 New public space adjacent midpoint of HS2 platforms and Metrolink
5 Retained mill building
6 Piccadilly Station
7 Northern Hub
8 Mayfield Strategic Regeneration Framework
9 New public park and special use building
10 New residential towers on the site of former Ancoats Station
11 Dense commercial development focused around new public squares
12 Mixed use development
13 Residential blocks focused around canal basins
14 Commercially led development
15 Infil of historic blocks
16 High rise development at arrival point of HS2
17 Old fire station
18 North Campus
19 Sackville Gardens
20 Piccadilly Gardens
21 Stevenson Square
22 New Islington
23 Holt Town
24 Medlock Valley
25 Ardwick

Proposals

The proposals that follow have been developed within the context of spatial, policy and economic objectives. A number of key themes have informed their evolution:

Maximising the Opportunity

Using the catalyst of HS2s arrival as a 'once-in-a-century' opportunity to fundamentally change Manchester by creating a new gateway and extending the city centre eastwards to the inner ring road and beyond.

Place Making

Creating a new district focussed around the Station and Boulevard with public spaces, streets and buildings that empower people, generate activity, foster belonging and promote civic pride.

Townscape Integration

Imagining an area that has its own character but also feels like a seamless extension of the city centre and facilitates new routes, connections and possibilities.

Neighbourhoods of Choice

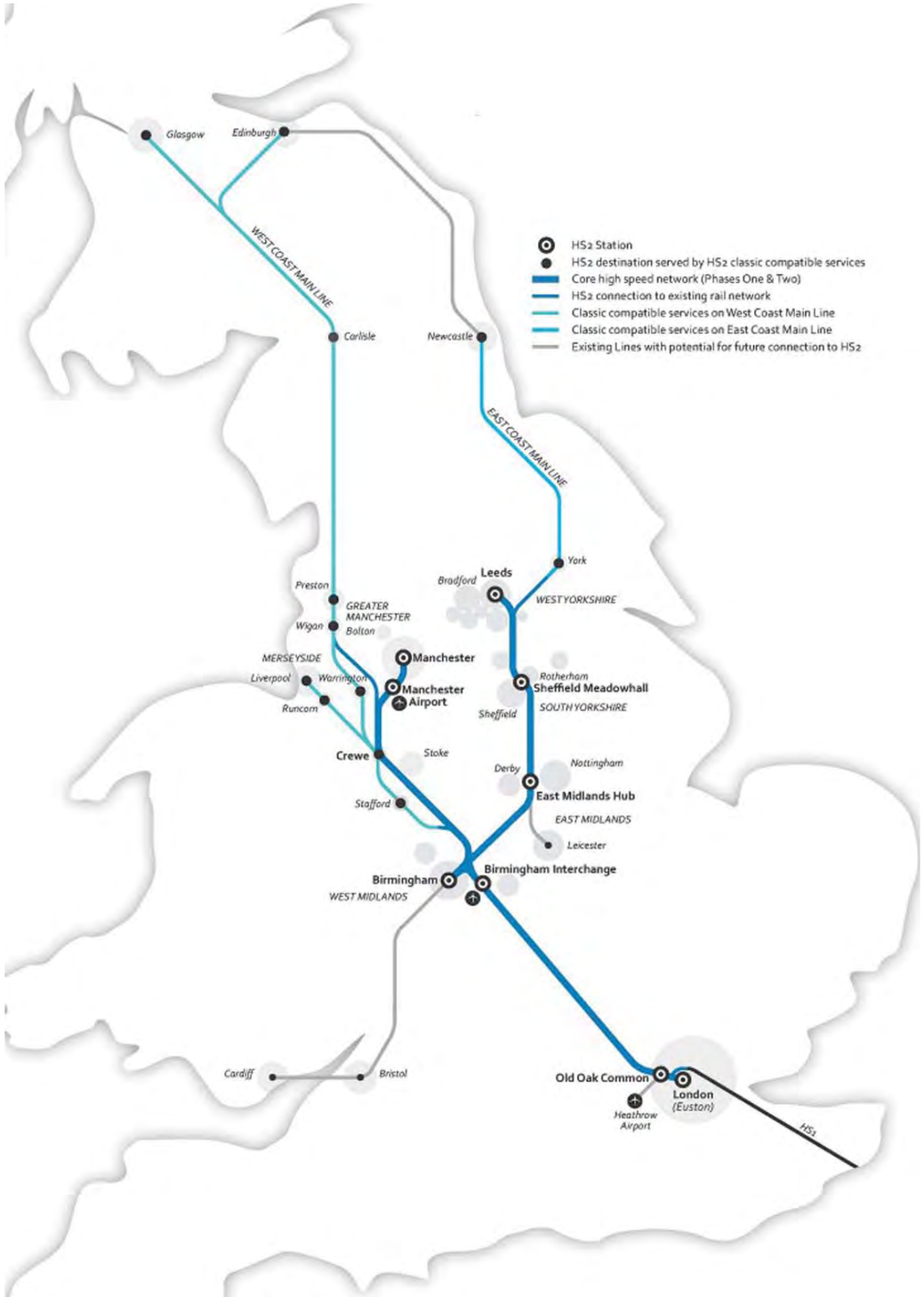
Envisaging a diversity of neighbourhoods that attract people to live, work and socialise by offering them inspiration, opportunity, connectivity, identity and wellbeing.

Transport Connectivity

Creating proposals that capture the potential for Piccadilly Station to be one of the world's great transport buildings and capitalise on the area's unique location on the doorstep of one of Europe's largest multimodal transport interchanges.

Market Viability

Defining proposals that offer a clear vision to investors and that are able to adapt to changes in demand.

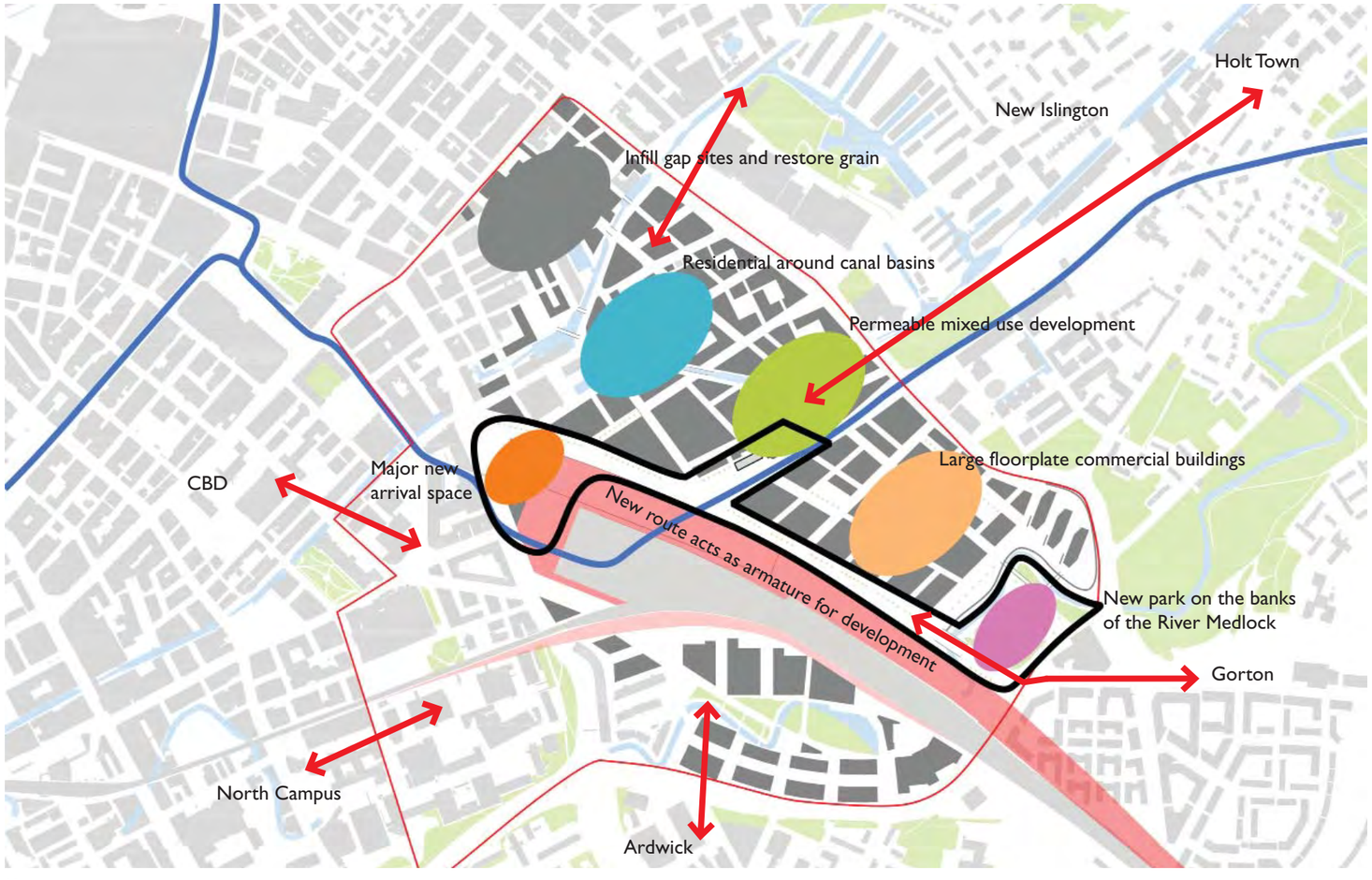


HS2

High speed rail has dramatically improved inter-city transport all over the world in the last 50 years. HS2 will see Britain adopt the worldwide standard and finally see the major cities of the Midlands and the North connected to the extensive, Europe-wide high speed network.

The cost of Government's initial preferred route, station and depot options for Phase Two is estimated at around £16.8 billion, without the spur to Heathrow (if the spur is included the costs for Phase Two would rise to around £18.2 billion). This is above the January 2012 central estimate of £16.4 billion, but within the cost range that HS2 Ltd produced at that time of £15.7 billion to £18.7 billion. The construction of the full network is expected to cost £33.1 billion (or £34.5 billion if the spur to Heathrow is included).

Government's own initial economic studies estimate the benefits to Manchester will include, station-supported employment of 30,000 jobs (Manchester Piccadilly 29,700; Manchester Airport 300). Station-supported housing: 3,100 (Manchester Piccadilly)



Strategic Principles

A high-level review of the potential regeneration strategy for the area was undertaken. This highlighted a potential framework that the proposals have evolved from. The diagram opposite summarises the ideas that came out of the review.


1
2
3
4
5
6
Key
1 Mayfield
2 North Campus and The Corridor
3 Piccadilly Station
4 Piccadilly Central
5 New public park
6 Ardwick

Defining and consolidating neighbourhoods

Identity (Neighbourhoods of Choice)

The proposals aim to maximise the regenerative potential of HS2 and the internationally significant multi-modal transport interchange that Piccadilly Station will become. New Neighbourhoods of Choice with strong individual identities will be developed around the station expanding the city centre to the east.

The diagram opposite shows the possible configuration of these new neighbourhoods. Detail of their individual identities, their likely uses, scale and density are described later this report. In outline:

- Piccadilly North
  Historic street pattern reinstated.
- East Village
  Mixed used development with residential focus around canal basins.
- Piccadilly Central
  An area of large office developments around public squares; with high-rise residential towers and a new city park.
- Mayfield
  A new mixed use city quarter on the banks of the remediated River Medlock.
- North Campus
  A research intensive knowledge environment.
- Piccadilly Place
  This area has already undergone extensive change with the creation of new hotels and commercial floor space. London Road Fire Station is within the SRF area and the SRF supports efforts to secure the re-use and refurbishment of this important historic facility.

North Campus

Holt Town

Manchester Airport

North Campus

A development strategy has been produced for the University of Manchester's North Campus. The area will be a mixed-use district with a focus on knowledge industry research-related activity. Located southwest of Piccadilly Station and west of London Road from the Mayfield Strategic Regeneration Framework; the area will benefit directly from the advent of HS2 and its proximity to the integrated transport hub. The use mix is complementary to those envisaged within the HS2 SRF.

Holt Town

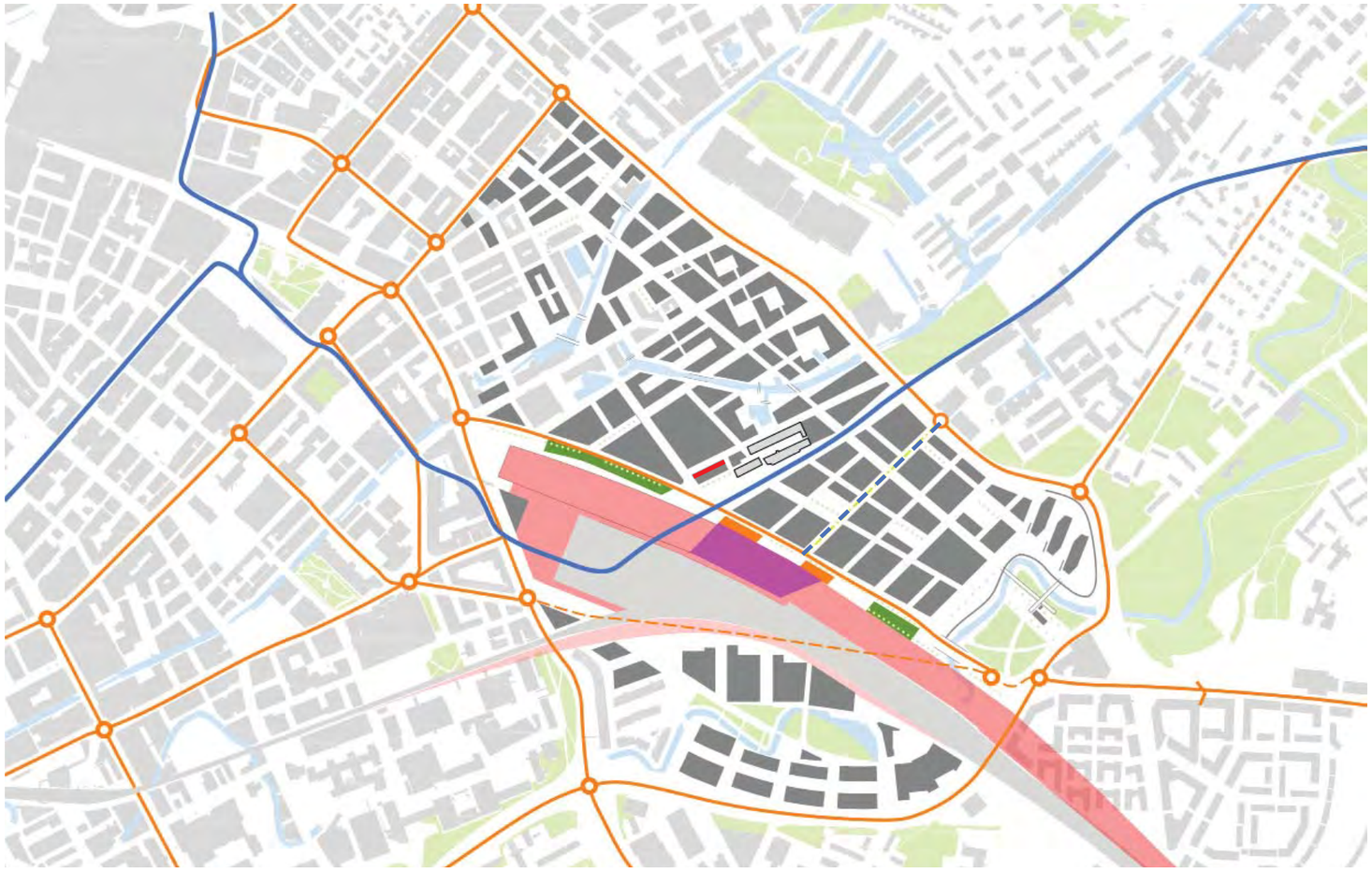
Holt Town lies to the northeast of the Piccadilly SRF, between Piccadilly Central and the Etihad Campus. Holt Town is the focus of a separate regeneration study. This study looks to improve connections with Piccadilly. The retained mill and the newly created public plaza outside it form a key connecting route to Holt Town. The Metrolink runs through this plaza and continues on to Holt Town itself. The Holt Town study also identifies improvement works to Great Ancoats Street (the inner ring road) that look to transform its nature and break down its present barrier effect.

Manchester Airport

Manchester Airport will receive an HS2 stop. A strategic study of the HS2's impact on Manchester Airport has been carried out. This study focuses on optimising transport links. It also questions the impact the HS2 station will have on the growth and development patterns in an around the airport.

Pedestrian Connections

The movement of people through streets and spaces is the lifeblood of any city. Ensuring permeability through the proposals and designing animated and legible connections with neighbouring areas stitches the proposals into the city fabric and helps pass on the benefits of HS2 to surrounding areas.



Key

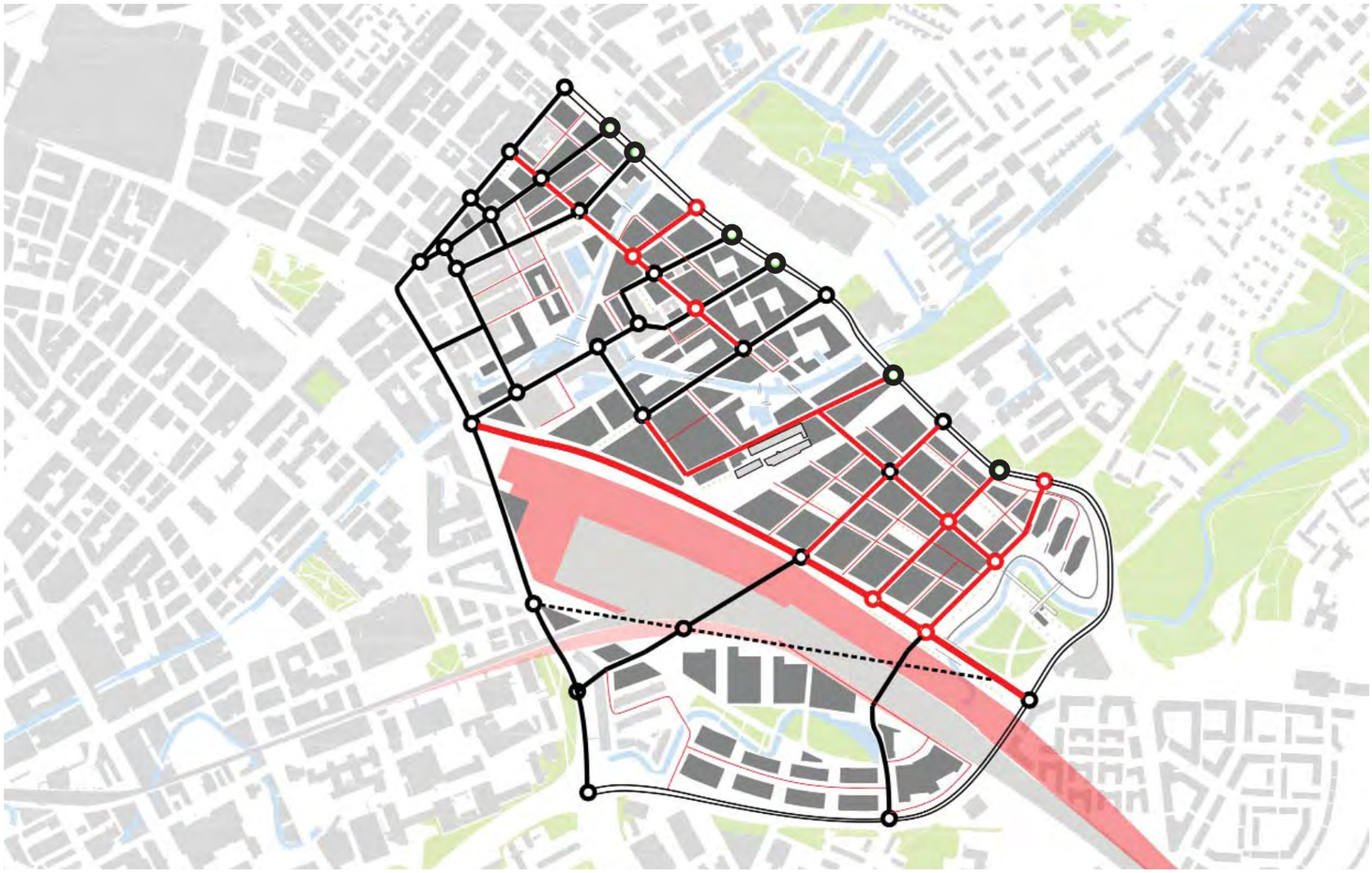
Metrolink
Buses
Potential new bus routes
Coach station
Taxi drop-off and holding
Bicycle storage

Public Transport Network

Focused investment in the expansion and connectivity of Manchester's public transport infrastructure will continue to deliver increased mobility and the potential to access employment.

HS2 will consolidate international, national, regional and local transport networks into a single site at Piccadilly. When HS2 and the Northern Hub are completed, Piccadilly will offer:

- A high-speed rail connection to Manchester International Airport
- High-speed rail connections to major urban centres in England
- Mainline rail services across the UK
- Reduced travel times and improved capacity across the North of England
- Local rail services
- Metrolink tram services
- Access to the local bus network
- A coach station
- A taxi stand
- Large capacity bicycle storage



Key

New boulevard
Existing Roads
New Carriageway
New Shared Surface
Possible closure of Fairfield Street
Existing primary junctions
Existing secondary junctions
New junctions

Road Network

The proposals create a revised road network on a grid that is sympathetic to the scale of Manchester's historic grain. Stitching new roads into the existing network ensures access and permeability. A detailed traffic study would be undertaken in light of the proposals to test assumptions and optimise the eventual solution.

A new boulevard is proposed. This acts as a high quality link between Piccadilly and East Manchester. Bus services, a coach station, the redeveloped Metrolink concourse and taxi drop-off and holding points are located along the boulevard. New development grows from this spine.

Initial thoughts on HS2 Phase 2 assume the closure of several roads beneath the rail lines. The proposals contained in this report question these assumptions. Physical links between the areas to the north and south of the station are vital to avoid the rail infrastructure presenting a major barrier to City Centre connectivity.

Key

Up to 5 storeys
6-7 storeys
8-12 storeys
12+ storeys

Heights and Massing

The scale of development balances the City's vision for Manchester's position in a globalised future with the scale of its historic built fabric

The quality and humanity of urban spaces is protected whilst providing for tall buildings in appropriate locations.

Key

Commercial
Residential
Hotel
Parking
Community

Uses

A mix of uses is essential to ensure commercial viability and economic sustainability. Every city centre should avoid large areas dedicated to a single use. The emphasis of each neighbourhood highlighted in the proposals and the spatial arrangement of uses within those neighbourhoods will change and adapt both before and after their redevelopment. However the desirability of a mixture of uses appropriate to a city centre location and the need for sufficient public amenity to ensure long-term flexibility and vitality will not.

The use mix indicated in the proposals is intended as a guide and to help appraise commercial viability. Uses other than those shown can be accommodated in a controlled fashion.

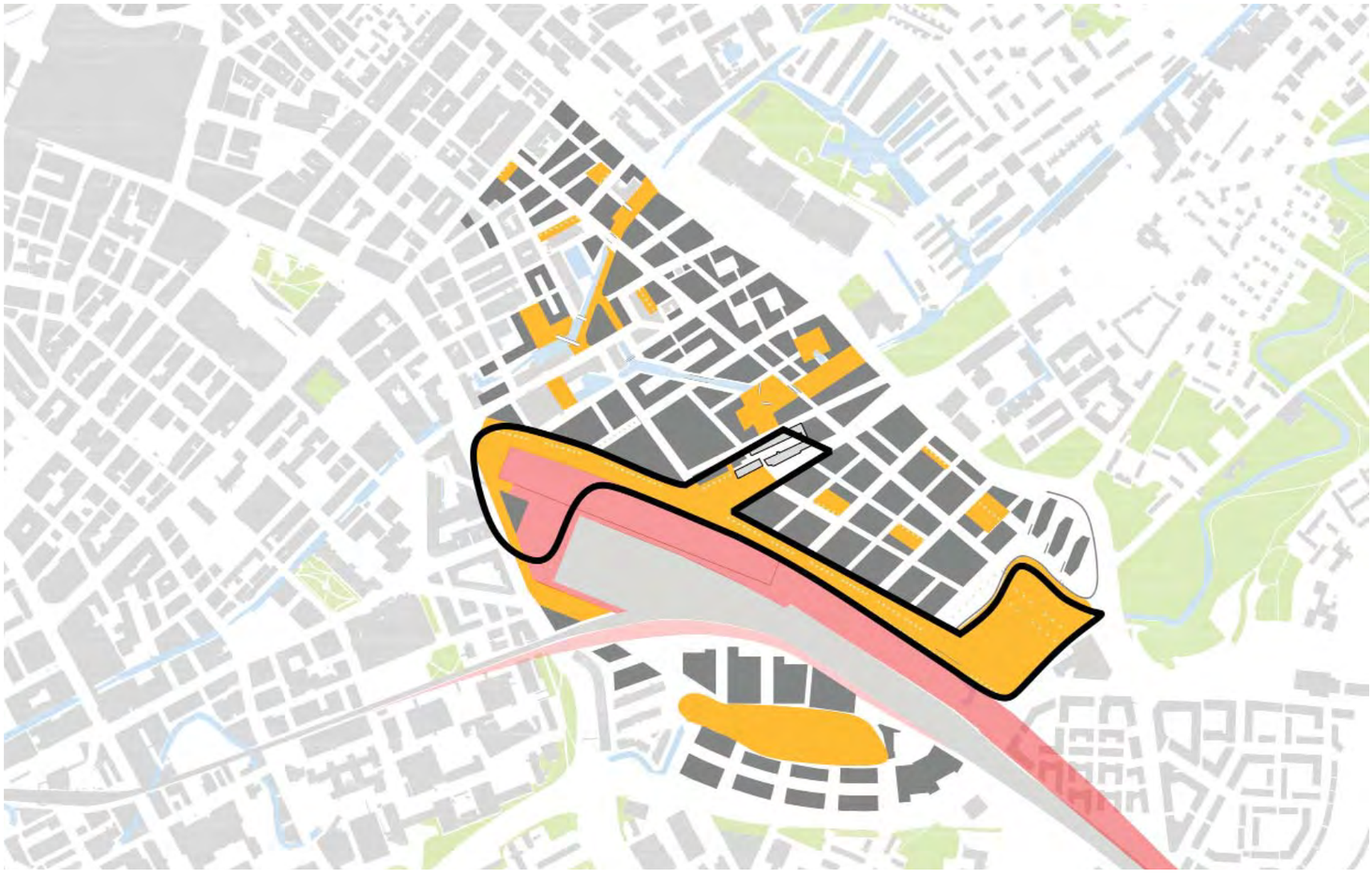
Key

Possible major retail destination

Active Frontages and Ground Floor Uses

Wherever possible in a city centre there should be active street frontage and the public should have access to the ground floors of buildings. Areas of street that are not animated by visible activity give rise to pockets of "dead city". This has a potentially negative impact on the perceived security of an area. It is therefore assumed that all street frontages will be active. Two major corridors of active frontage are indicated on the diagram opposite.

The opportunity exists to incorporate a major retail destination into the proposals. One possibility could see the lower floors of the landmark buildings at the front of the station given over to such a use.



Key

Key public spaces

Public Spaces

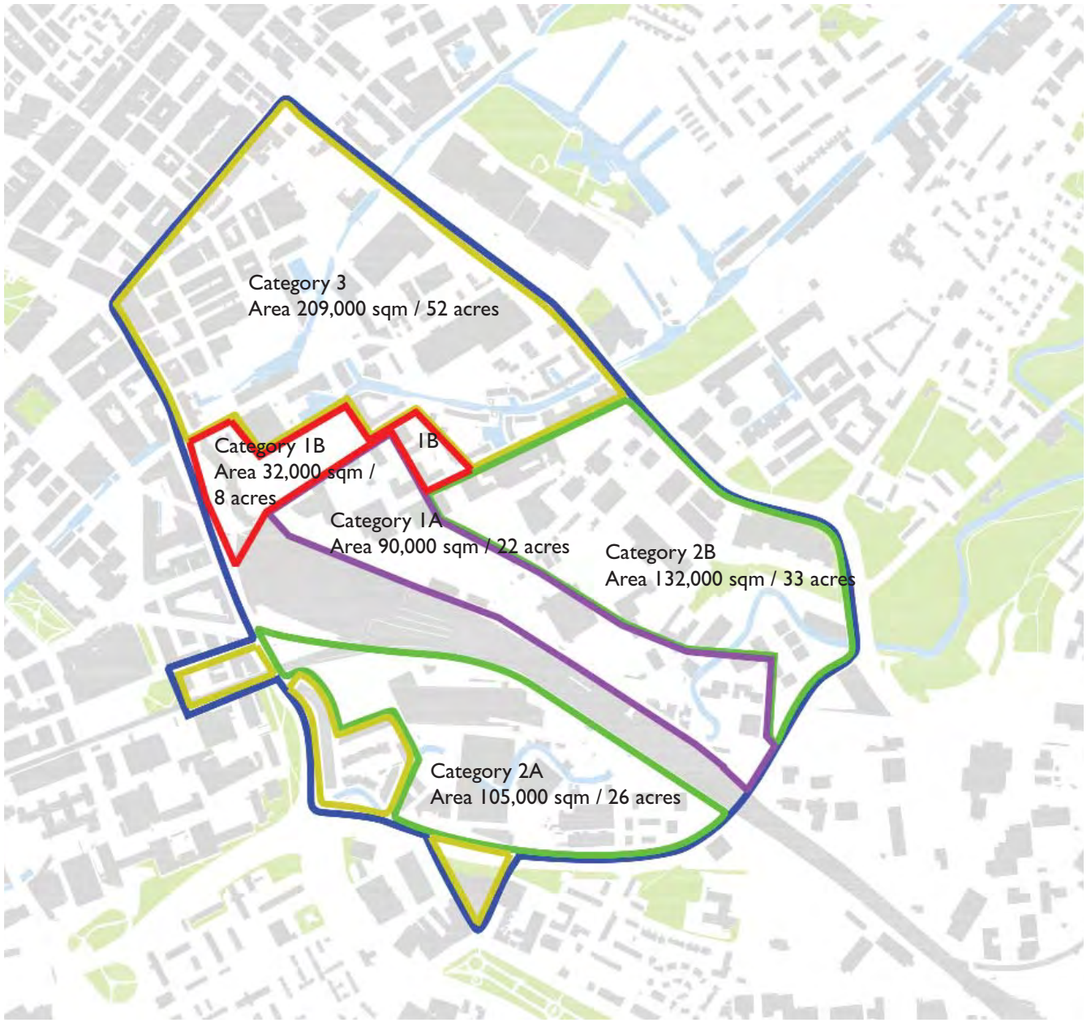
Streets are the principal public space of the city. In addition a network of public spaces will support the high density essential for the City Centre to foster sustainable growth. These will offer a range of public outdoor amenity space. The proposals make provision for:

- A redesigned and reinvigorated arrival space at the front of Piccadilly Station
- A new civic orientation space to the north of the HS2 concourse
- A new boulevard that provides a high quality connection between Piccadilly and the communities of East Manchester
- A new public park connected to Mayfield Park and the Medlock Valley. This park provides an opportunity to host major festivals and public events.
- A series of public spaces with different scales and characters

Parking

As the public transport network continues to improve reliance on the car will diminish. However it is important to acknowledge that access to the City Centre and to the transport network will - for many - continue to rely on the car. HS2 brings with it a requirement for large capacity parking. The proposals envisage achieving this with several Multi-Storey Car Parks (MSCPs) that also serve the vicinity around the station. In addition individual buildings may adopt underground parking solutions.

The plots identified for MSCPs are indicated in purple opposite. In total these could provide 3,400 spaces. In addition the Mayfield area to the south has the potential for a further 1,400 parking spaces in MSCPs and below ground parking lots. Parking provision will continue to be reviewed as the proposals develop.



Categories (over existing)

Density

Increasing the density of development in cities is crucial to provide sustainable growth and long term economic competitiveness. The appropriate density of urban development must balance economic viability, urban design strategy and policy objectives. An indication of development density is Floor Space Index or FSI (sometimes called Floor Area Ratio). This is the total building floor area (the quantum of development) divided by the development area (the site). The diagram opposite shows the development area. Details of the Floor Space Index of the proposals and a number of comparators are given in the table below. Areas with a large amount of existing building stock are excluded from the FSI calculations.

	Quantum of development	Site Area	FSI
Category 1A	48,000	90,000	N/A
Category 1B	170,200	32,000	5.3:1
Category 2A	260,677	105,000	2.5:1
Category 2B	502,968	132,000	3.8:1
Category 3	358,550	209,000	N/A
TOTAL	**1,340,395**	**568,000**	

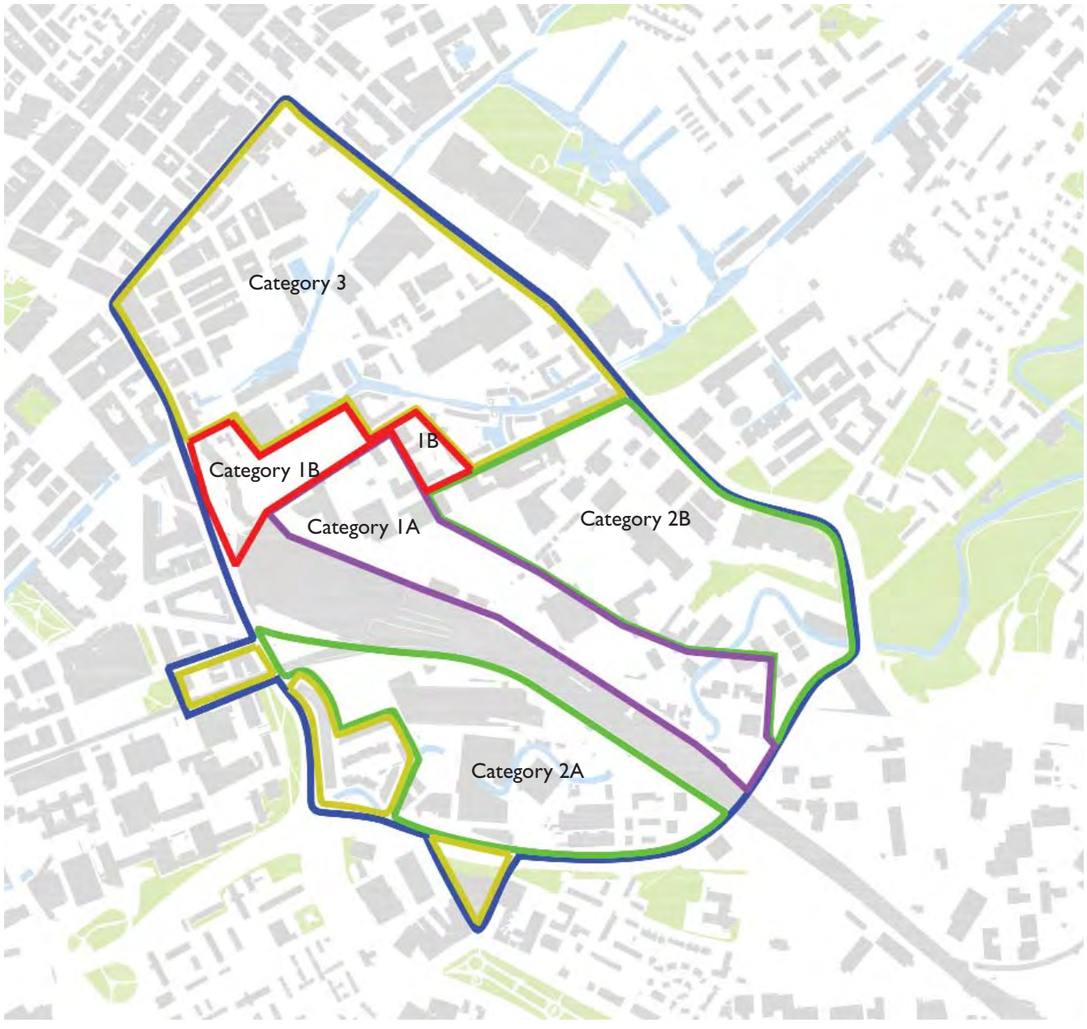
	FSI
First Street Development	2.7:1
Kings Cross Development, London	2.7:1
Spinningfields	4.5:1

Indicative Area Schedule

Development plot	Floors	Floorplate (m^2)	Principal use	Commercial GEA (m^2)	Residential GEA (m^2)	Retail/leisure GEA (m^2)	Hotel GEA (m^2)	Parking GEA (m^2)	Community GEA (m^2)	Total (m^2)	Total (sqft)
Category 1A	10	3,200-3500	Commercial	43,200	0	4,800	0	0	0	48,000	516,668
Category 1B	8-20	660-2,200	Hotel	42,300	0	7,200	59,100	61,600	0	170,200	1,832,018
Category 2A	4-30	1,700-2,600	Residential	97,705	121,600	13,782	27,590	0	0	260,677	2,805,904
Category 2B	4-20	280-3,600	Commercial	294,120	114,100	45,710	0	28,800	20,238	502,968	5,413,902
Category 3	5-7	90-1,750	Residential	146,920	167,100	28,300	0	13,300	2,930	358,500	3,859,400
Total				**624,245**	**402,800**	**99,792**	**86,690**	**103,700**	**23,168**	**1,340,395**	**14,427,892**
Equivalent units					4,500 homes		1,000 rooms	4,800 spaces			

Notes

- The figures are an assumption of the maximum appropriate new development and do not include existing stock except the retained mill building.
- Buildings with a footprint over 2,000m^2 (GEA) are assumed to contain an atrium. Atria are calculated at 15% of the footprint above ground floor level.
- Parking spaces are calcuated at one space for every 30m^2 of GEA.
- New homes are calcuated at one home for every 60m^2 of GEA.
- Hotel rooms are calculated at one room for every 80m^2 of NIA.
- All figures have been rounded down to reflect the high level nature of the study.
- The areas shown above are for guidance only and should be re-measured by a Chartered Surveyor prior to any valuation or feasibility exercise.



Delivery Categories (over existing)

Delivery Categories (over masterplan)

Category 2A (Mayfield)

Category 1 (HS2)

Category 2B (Piccadilly Central)

Category 3 (remainder)

Delivery

For the purposes of delivery the areas within the SRF are parcelled into a number of categories. The categories are indicated on the opposite page and can be described as:

- Category 1A Land
  Development and operational area prescribed by HS2.org.uk
- Category 1B Land
  Essential to the delivery of Manchester City Council's preferred HS2 station configuration
- Category 2 Land
  Key gateway sites, presently low density / low value but capable of hosting large scale / valuable mixed use development. This land could feasibly be acquired and developed by the City and its partners.
- Category 3 Land
  Sites and buildings with potential for incremental repurposing and upgrading. Delivery led by the private sector but with the potential for the City to capture some value.

It is unfeasible that an area of this size (140 acres) could be delivered in a single phase. The diagrams on this page show how the different categories of land would be phased.

The first phases of work are focused on the Mayfield Strategic Regeneration Framework. The next phase of development includes the delivery of the HS2 station works, the areas required to deliver it and the boulevard. The next phase of development is focused on Piccadilly Central and would likely start with the development of the blocks immediately adjacent to the HS2 platforms before expanding in an easterly direction. Category 3 land would be developed on a block by block basis.

Global, Local and Internal Environments
- CO_2 emissions reductions on site wide scale
- Local air pollution minimised (e.g.NOx)
- Local flood risk addressed

Materials
- Local sourcing
- Re-use demolished materials
- Use of recycled materials

Energy
- Low carbon design
- Energy efficiency

Education and Employment
- Increase local jobs
- Potential for apprenticeships/ internships

Land, Water and Air
- Brownfield site
- Improve water quality of Medlock
- Suitable air quality emissions

Waste
- Design out waste
- Reduce construction waste to landfill
- Recycling facilities

Health and wellbeing
- Open space will promote wellbeing

Land and Ecology
- Planting of open spaces and river clean-up will improve local ecological value
- Green roofs will provide additional habitats
- Possible link to green corridor infrastructure

Community and Inclusion
- Community space
- Open development

Transport and Mobility
- Pedestrian priority
- Secure bicycle storage
- Good access to local transport network

Housing and Amenity
- Inclusion of high-quality residential and hotel uses
- A "Neighbour of Choice"

Culture, Heritage and Built Form
- Sympathetic design to local architecture
- Leisure facilities will improve local cultural offerings

Sustainability

The HS2 SRF should aim towards exemplary standards in this regards and, given its scale, could make a major contribution to Manchester's drive towards being one of the UK's leading sustainable conurbations. As a birthplace of the modern city and 19th Century industrialisation, it is fitting that Manchester should play a leading role in addressing the climate effects of the global economic transformation that followed.

The City Council's 'Climate Change Call to Action' adopted in 2009 describes a new way of thinking about the subject, which fits in the context of Manchester's Community Strategy and describes how taking early action on climate change can deliver an even better city in which to live and work. The Call to Action focuses to a large extent on the urgent task of reducing the City's impact on the climate by establishing 'low carbon living' to reduce emissions by at least a third (equivalent to 1.3 million tonnes) by 2020. It is also a plan to capitalise on the opportunities that this will provide for improved quality of life, prosperity, regeneration benefit and social sustainability.

It has not been possible to explore sustainability in any detail during this stage but future development of the scheme would look to define targets for environmental performance and potential commitment to site-wide energy strategies along the lines of that indicated opposite.

Further Detail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2
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4
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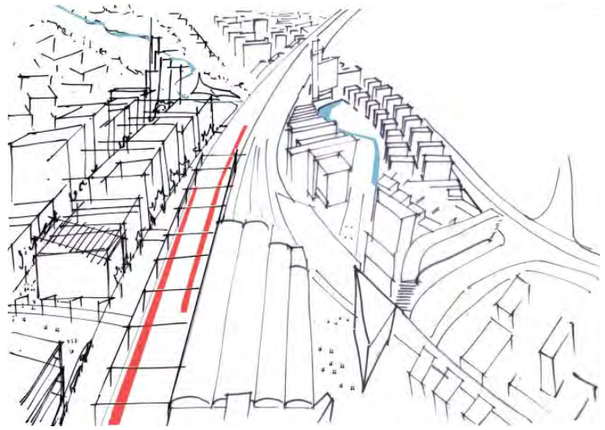
9
Key
1 Mayfield
2 University and The Corridor
3 Piccadilly Station
4 Landmark buildings
5 Piccadilly North
6 East Village
7 New Islington
8 Piccadilly Central
9 New public park

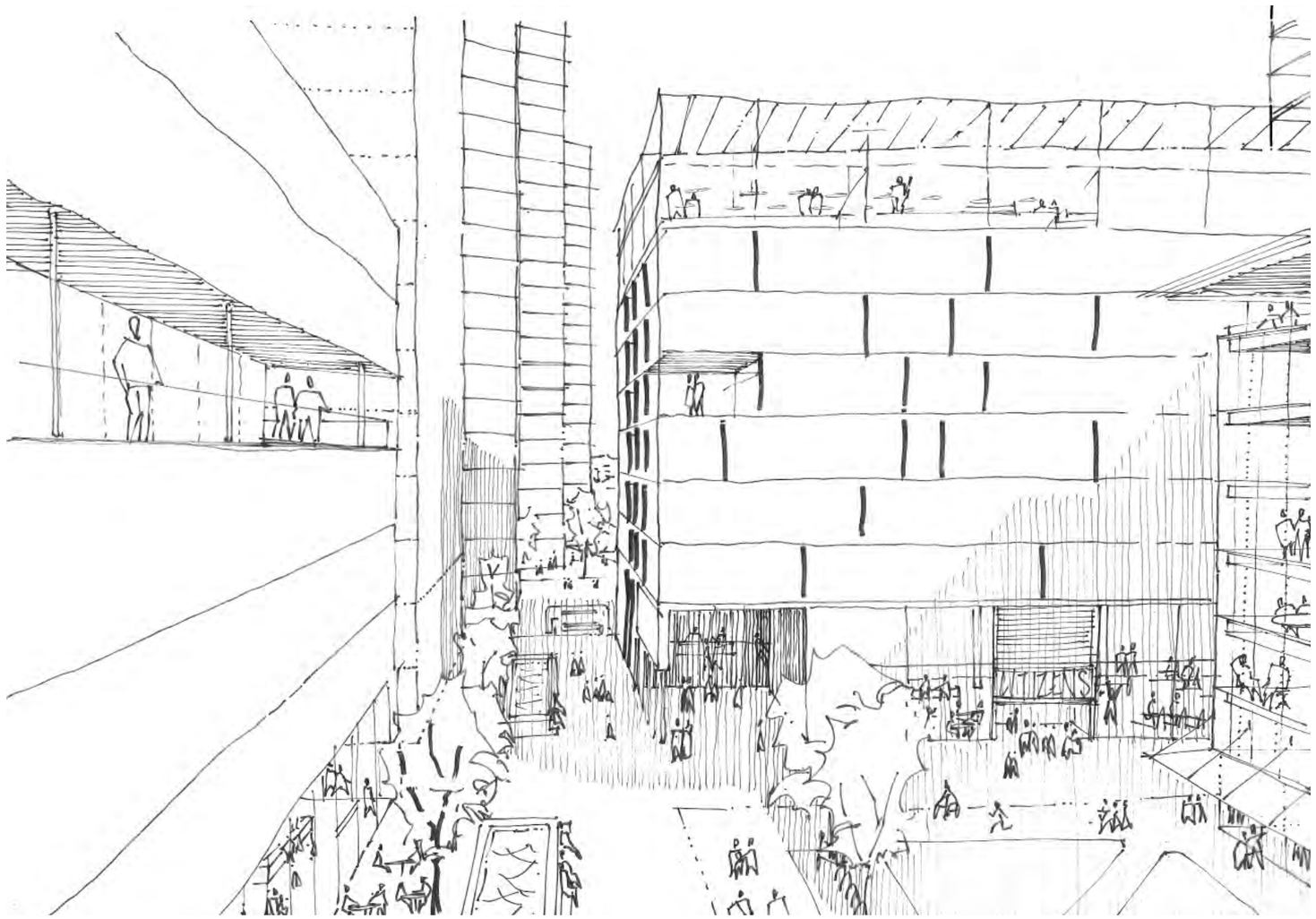
New Street Square, London

New Street Square, London



Early Development Sketch

Kings Cross, London

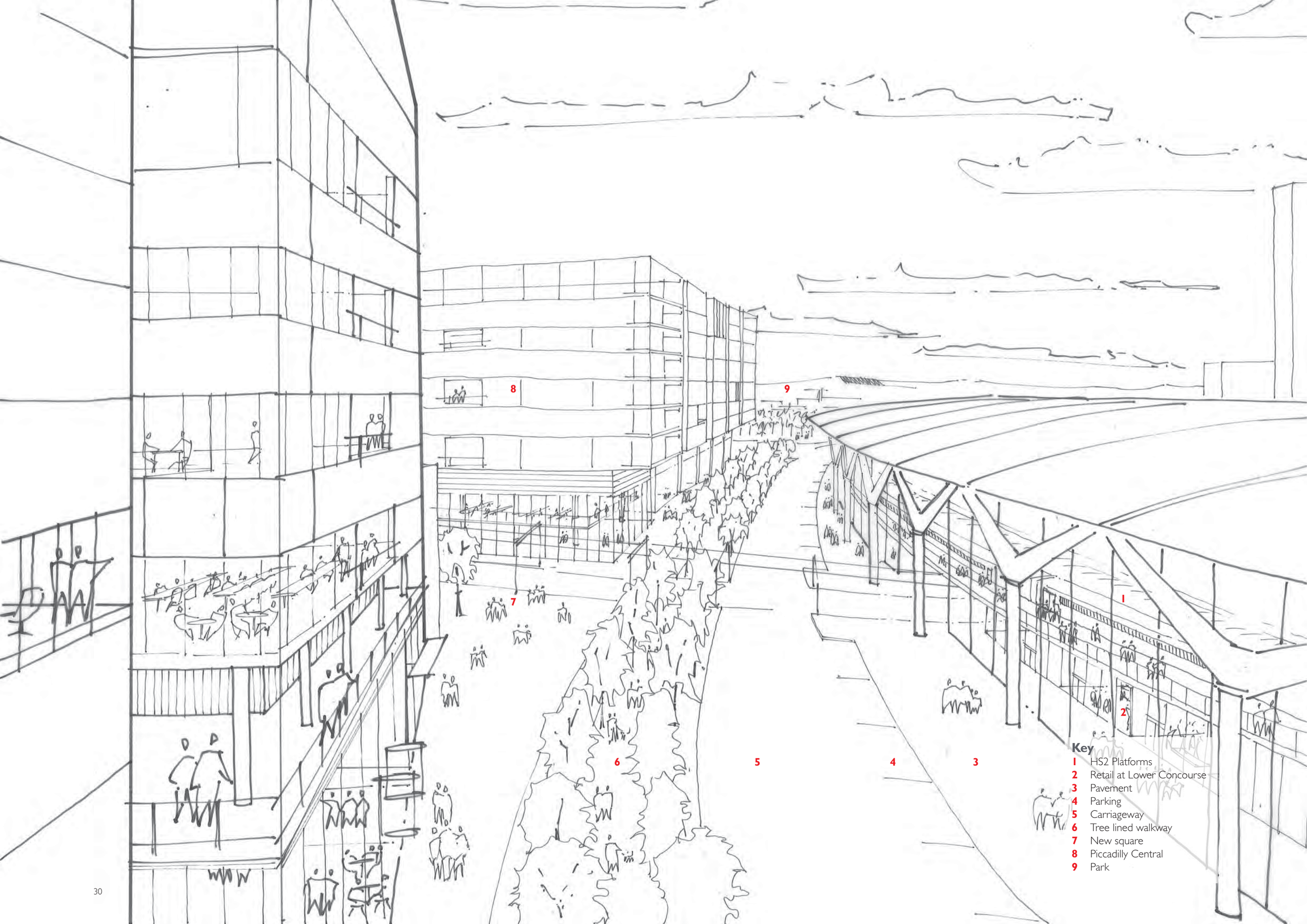


Piccadilly Central will be an area characterised by dense commercial development focused around a series of high quality public spaces

Piccadilly Central

An entirely new area of large commercial buildings; Piccadilly Central will capitalise on the unrivalled connectivity that HS2 will deliver. Eschewing out of town development models and, instead, offering large office floorplates and large hotels in the City Centre. Together with the regenerated Mayfield area; Piccadilly Central will represent a significant easterly expansion of Manchester's central business district.

A spire of development at the confluence of the redeveloped station entrance and the newly created boulevard is supported by an area of dense, urban blocks set around a series of public spaces. The most prominent of which is served by the Metrolink and is located at the mid-platform entrance of the new HS2 concourse. This square is characterised by the retained mill building - the only built heritage remaining on the site – which would be redeveloped for community or arts use.



Key

1. HS2 Platforms
2. Retail at Lower Concourse
3. Pavement
4. Parking
5. Carriageway
6. Tree lined walkway
7. New square
8. Piccadilly Central
9. Park

Chapultepec, Mexico

Avenue des Champs-Elysees, Paris

Boulevard, Kiev

Avenue General de Gaulle, Paris

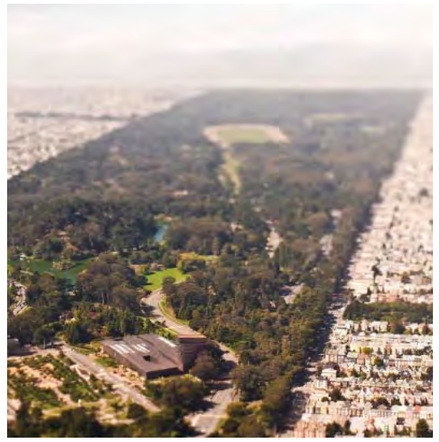
Piccadilly Boulevard - a major new urban thoroughfare that utterly transforms the character and connectivity of the area.

Piccadilly Boulevard

A new route follows the edge of the HS2 viaduct connecting East Manchester directly to London Road. This single device radically improves connectivity and overcomes the present division between the City Centre and areas to the east. If not developed appropriately the new rail infrastructure could add to the present division caused by the existing rail viaduct: creating a barrier to connections. Instead, the new route aims to turn this on its head by making the rail infrastructure a positive contribution to the urban design of the area. At street level, tucked beneath the tracks, should be retail and business space, bus stops, a coach station and taxi stands – all the animation associated with a bustling city street. Similar in nature to a continental boulevard the route provides a clear channel for movement through the city and acts as an armature to neighbouring, more dense development.

The boulevard connects two important public spaces: a major new public arrival space at the front of Piccadilly Station and the new park formed on the banks of the River Medlock. At its midpoint a new public square is created. The square is positioned to take advantage of a retained mill building and is animated by the Metrolink as it leaves the station en route for the Etihad Campus. A lower station concourse at the midpoint of the HS2 platforms connects directly to the boulevard and the square.


GALAXY COFFEE



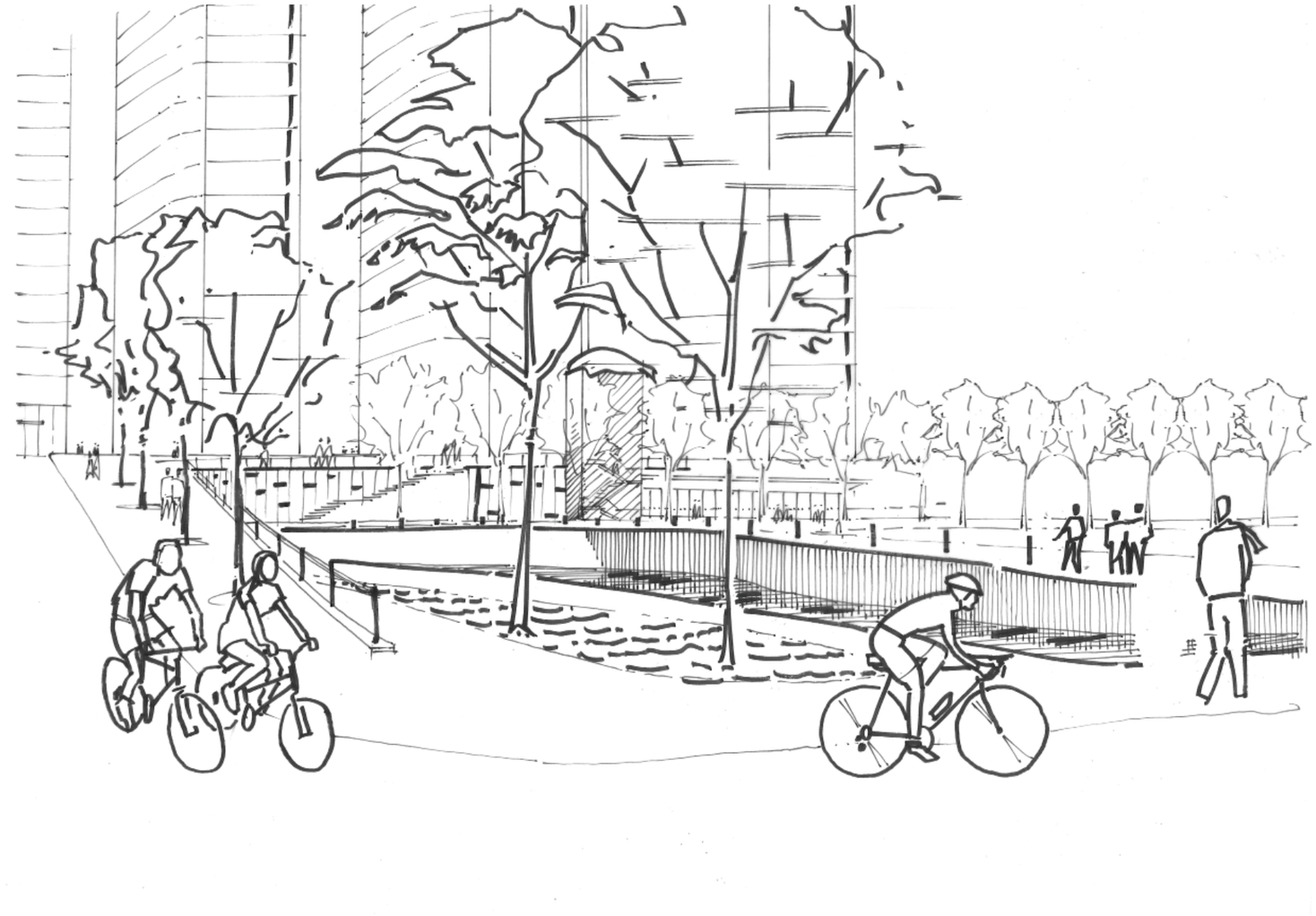
de Young Gallery, San Francisco

St Justa, Lisbon

Docklands Bridge, London

Bosco Verticale, Milan

Beetham Tower, Manchester



Piccadilly Boulevard terminates in a major new city park. Lined with high rise residential developments the park forms a focus for leisure and recreation and could play host to major festivals and events.

The Park

A counterpoint to the spire of development at the front of the redeveloped station; high rise residential buildings sit on the raised ground that was once Ancoats Station. They enclose a new south facing city park on the banks for the Medlock. Together these form a gateway into Manchester on arrival from the south of Britain and Manchester International Airport.

The park would make an ideal location for a signature cultural building or a great venue for large public gatherings and will help regeneration benefits spread deeper into East Manchester.

South of Piccadilly Station is the Mayfield Strategic Regeneration Framework

The redeveloped viaduct arches could provide a dynamic new urban quarter adjacent to Mayfield

Study of the view towards Piccadilly Station

Piccadilly Place

North Campus

Mayfield with a major new park and rejuvenated Medlock River at its heart

Mayfield

Mayfield is to become a distinctive new urban quarter that defines a key gateway into Manchester and extends the high quality environment of the city centre.

A major new park at its heart and a vibrant mix of uses will give a destination quality and a unique sense of place.

Enhancing connectivity beyond the confines of the site will act as a catalyst to maximise wider regeneration benefit

Mayfield has been designed to integrate seemlessly with the wider HS2 SRF. However it does not depend on HS2 and will be delivered as a first phase.

Further detail can be found in the stand alone Mayfield SRF report.

Piccadilly Place

This area has already undergone extensive change with the creation of new hotels and commercial floor space. The proposals in this SRF support efforts to secure the re-use and refurbishment of the London Road Fire Station. This Grade II* listed building is a highly distinctive local landmark that is pivotal to the character of London Road.

North Campus

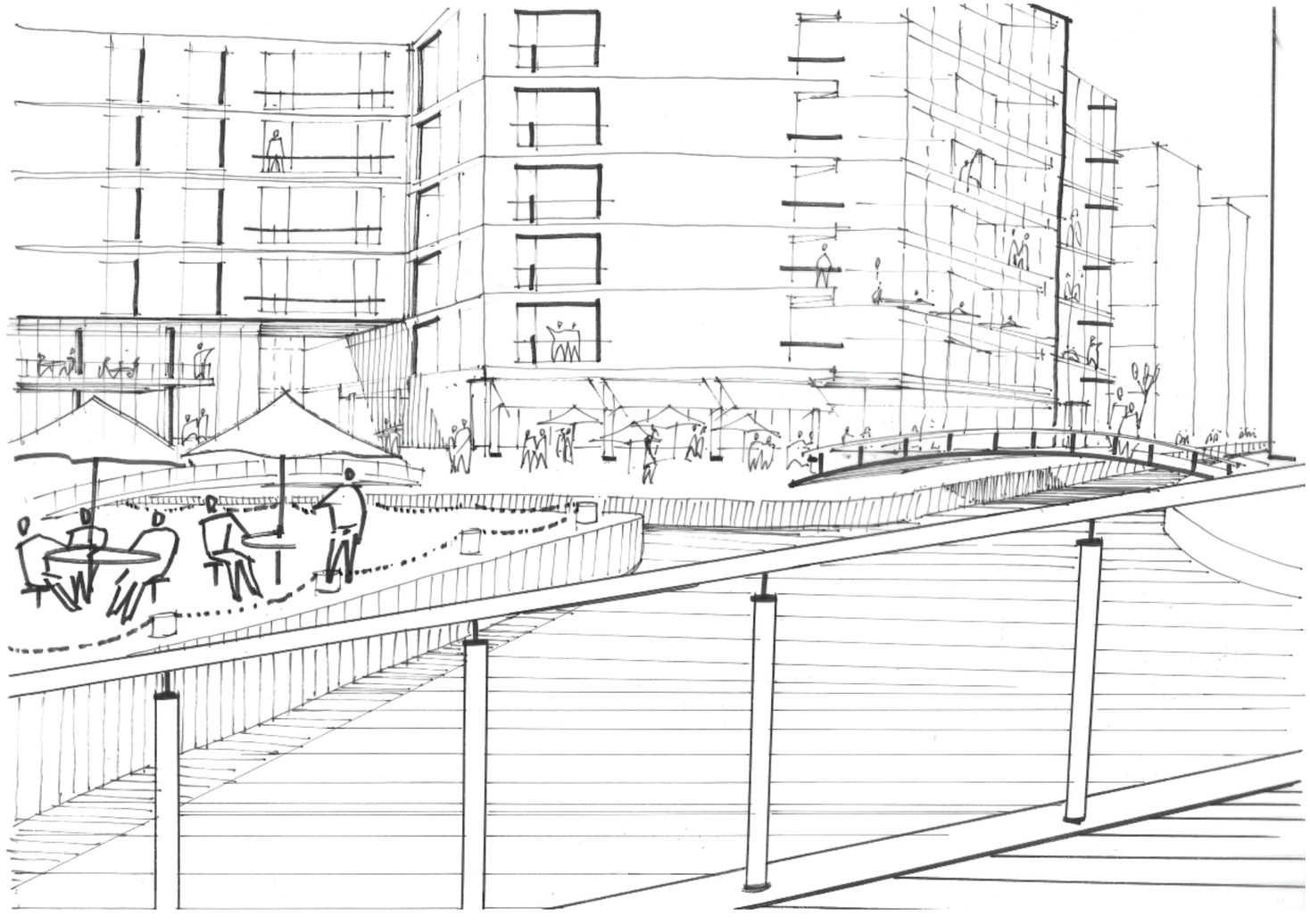
A development strategy has been produced for the University of Manchester's North Campus. The area will be a mixed-use district with a focus on knowledge industry research-related activity. Located southwest of Piccadilly Station and west of London Road from the Mayfield Strategic Regeneration Framework; the area will benefit directly from the advent of HS2 and its proximity to the integrated transport hub. The use mix is complementary to those envisaged within the HS2 SRF.

The Lanes, Brighton

Canal Street, Manchester

East Village, New York

Nine Streets, Amsterdam



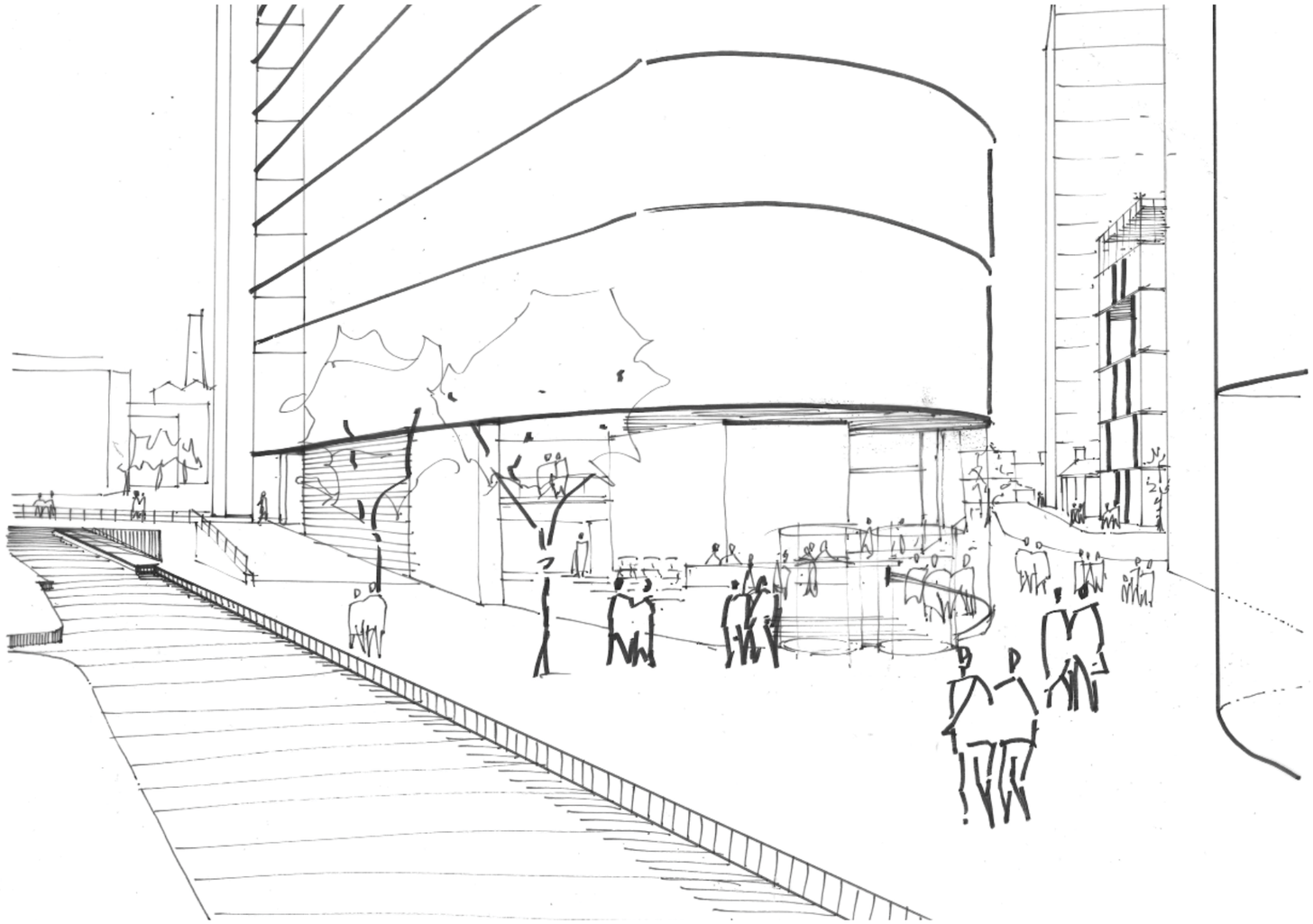
East Village

The proposals envisage the area identified as the East Village developing into a mixed use area. Apartments, townhouses, smaller office floorplates, retail, cafes and bars would be contained in a series of squares: some public, some private. The squares will be connected by bridges, lanes and portals and each would have an individual identity. The intensity and diversity generated by this kind of urban fabric makes areas such as Canal Street in Manchester, Soho Square in London and the Nine Streets in Amsterdam so vibrant and attractive. The permeability of the area offers greatly improved connectivity between New Islington and the City Centre.

Northern Quarter, Manchester

Spinningfields, Manchester

Spinningfields, Manchester



Piccadilly North

To the north of the station the historic grain of the city is more discernible than anywhere else in the Eastern Gateway. Historic road patterns and pockets of built fabric remain around Piccadilly basin, the Rochdale Canal, and the area which neighbours onto the Northern Quarter. New development in these areas would reinforce this grain, acknowledging the scale of neighbouring city blocks and reinvigorating connections that existed in the past. The use mix in this area would be governed by demand but a variety of residential development, focused on the canal basins, would be encouraged.

In areas where there is less historic grain new development steps up in scale. For example, the area contained by Great Ancoats Street and the Rochdale and Ashton Canals becomes a new office led development akin to Spinningfields.


1
2
3
4
5
6
7
8
Key
1 New Civic Arrival Space
2 Air rights development
3 HS2
4 Listed train sheds
5 Northern Hub
6 Boulevard
7 London Road Fire Station
8 Mayfield Plaza

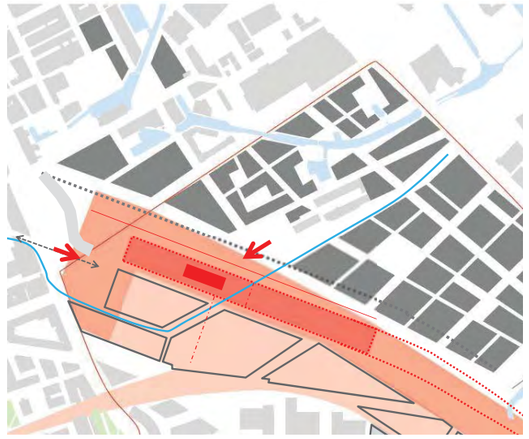
Station

Integration of the HS2 and existing Piccadilly Stations could create a world class intermodal transport facility and architectural statement befitting of Manchester.

This part of the study looks to create an aspirational brief for the City Council to use in discussion with HS2 and other partners. It should be understood that the information and designs contained in this section are not the work of HS2 Ltd or Network Rail but rather the City's exploration into the potential of a new integrated station.

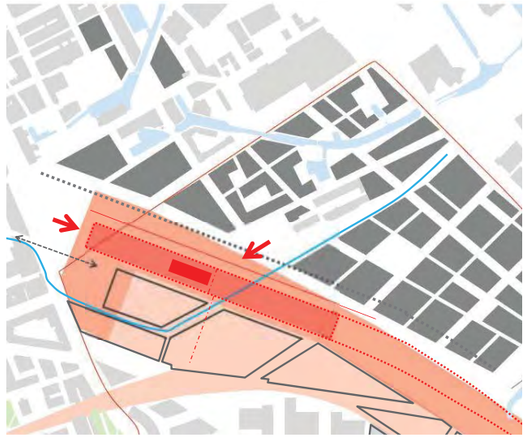
The proposals described here are based on:

- Work carried out in conjunction with Arup Associates rail engineers, Transport for Greater Manchester, HS2 Ltd, Network Rail, KPMG and Manchester City Council.
- Site analysis and Bennetts Associates' existing knowledge of the area from the Mayfield scheme
- Basic understanding of the requirements for HS2 from information available in the public domain and other sources
- Research into the modern transport hub (refer section entitled 'Station Precedent)
- The Team's knowledge of the rail transport hub typology from other commissions such as Crossrail



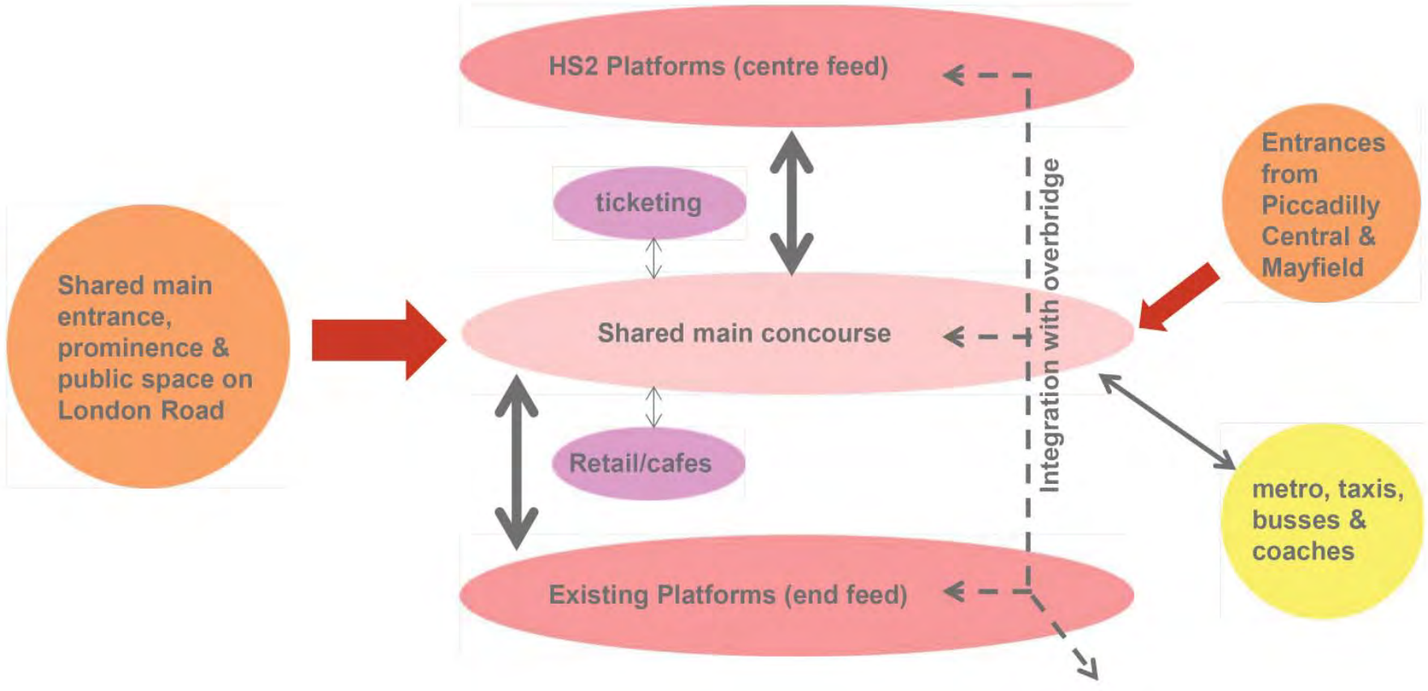
HS2 Proposals

The new HS2 station is tucked behind Gateway House. It has a poor relationship with the city and offers an uninspiring entry point into Manchester. The HS2 platforms have limited connections with the existing station.



Revised Proposal

The City believes it is vital that a much more direct connection with Piccadilly and the city centre is created. The proposals therefore envisage that the HS2 platforms are moved west, Gateway House is demolished and in its place a new station plaza befitting Manchester is created. Access to the mid point of the HS2 platforms is from a new concourse shared with the existing station or a new public square created in the Strategic Regeneration Framework to the north.



Organisational diagram

The Station

HS2 Ltd has outlined very early proposals for the siting of the new HS2 station. The proposal is shown above left. The City's response to the proposals is described above and is premised on the following key principles:

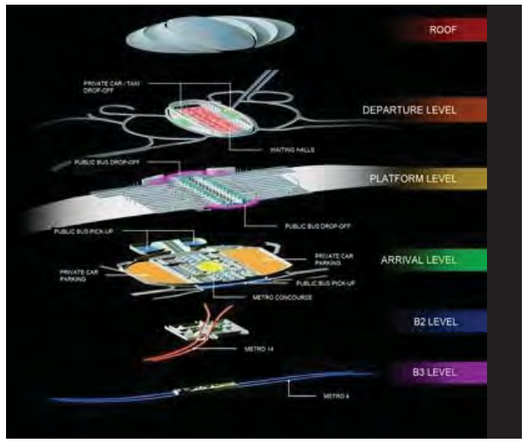
- The station should be a single, integrated facility and not two separate stations. The organisational diagram opposite aims towards a new shared main concourse, legible circulation to all areas, clear definition of spaces and full integration of all transport interconnections.
- 4no. new 400m long platform faces for HS2 with passenger feed as close to the centre as possible.
- Multiple entrances from the City Centre, Mayfield and Piccadilly Central which are all prominent, welcoming and legibly linked.
- Demolition of the 'Lazy S' building to the north of the existing entrance to connect the expanded station much more directly to the city centre, enhance the presence of the station on London Road and transform the whole experience of arriving into the city.
- Further to the above, bring the entrance down to street level and place a major new public space as the threshold between the station and the city.
- A distinctive station for HS2 which presents a grand new entrance and compliments the existing listed train shed.
- Creation of an attractive and active frontage to the proposed Boulevard that adds to the potential of this new city landmark.

(continues on next page)

St Pancras International Station

St Pancras International Station

Beijing South



Beijing South

- Integration of new and existing concourses and routes within the station such that the experience of using the station is simple, legible and inspiring.
- Direct connections to expanded Metrolink concourse and relocated bus, taxi, parking and cycle provision.
- Maximisation of retail and food/beverage accommodation to create a destination offer akin to St Pancras and other major modern termini.
- Incorporation of a new 12 bay coach station and a distinctive retail/ market/cultural destination under the new and existing railway viaducts .

Integration of Metrolink

To accommodate the expansion of Piccadilly, HS2, tram train and the proposed developments in the area, new Metrolink platforms are required at Piccadilly to allow more passengers to use the station. The works will improve the passenger experience when using this Metrolink stop and allow better integration with the proposed station expansion. A number of options have been considered and two options are currently being taken forward. The options can be seen in the diagrams on the following pages and are described below.

Option one:

This option retains Metrolink in the same area of the station as the existing stop. The existing platforms will be removed and replaced with two larger island platforms, which will double the Metrolink capacity, compared to the existing stop. There will be four tracks through the station. The area around the platforms will be opened up, with new mezzanine walkways installed to connect Metrolink to the main station and surrounding areas.

Advantages:

- Improved access to Metrolink platforms.
- Increased capacity.
- Metrolink stop in close proximity to the Mayfield site.

Disadvantages:

- Closure of London Road, adjacent to the Metrolink stop.
- Removal of Grade 2 listed station façade adjacent to London Road.
- Significant long term disruption during construction to Metrolink users.
- Existing drop-off and taxi waiting area to be removed.
- Flow through station impeded, as the Metrolink platform and tracks would act as a barrier to movement between Mayfield and the station / City Centre.
- Potentially significant structural alterations / removal and replacement required to the Network Rail station supporting columns.

Option two:

This option would involve constructing a new Metrolink stop beneath the proposed HS2 platforms. The existing Metrolink stop would then be removed. Two large island platforms and four tracks would be installed, doubling the current Metrolink capacity. Access to the Metrolink stop would be gained from the HS2 station mezzanine, which also serves HS2 and the mainline station. The scheme takes advantage of the removal of Gateway House.

Advantages:

- Increased capacity.
- Improved access to Metrolink platforms, particularly for users of HS2.
- The Metrolink stop is in close proximity to the Regional Centre and the Strategic Regeneration Framework development zone.
- This option can be constructed at the same time as the HS2 platforms and minimises the construction impact on the station and Metrolink users.
- The impact on London Road is similar to the existing condition.
- The area of the present Metrolink stop can be brought into benficial use.

Disadvantages:

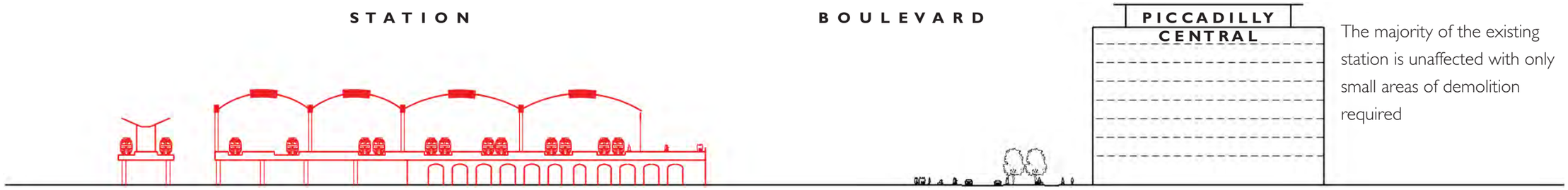
- Wider area of disruption during construction, although the majority of this disruption will be required for HS2 regardless of the inclusion of Metrolink.
- Tunnelling works would be required below the new plaza.

Station entrance from London Road

approximate section line

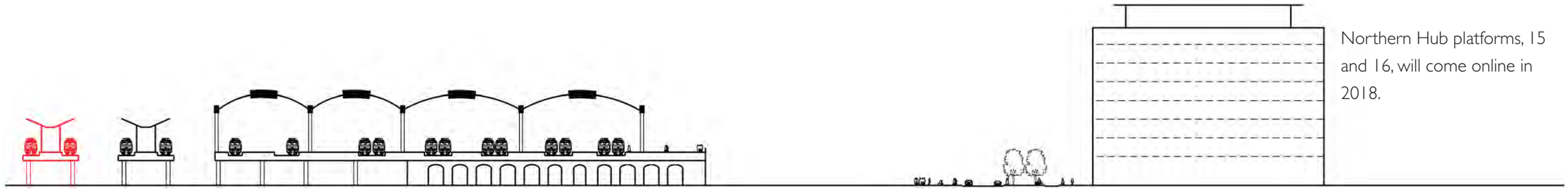
Key

1 New Civic Arrival Space
2 Air rights development
3 HS2
4 Listed train sheds
5 Northern Hub
6 Boulevard
7 Redeveloped shared concourses
8 New vertical circulation
9 Plaza to south
10 New entrance from Mayfield



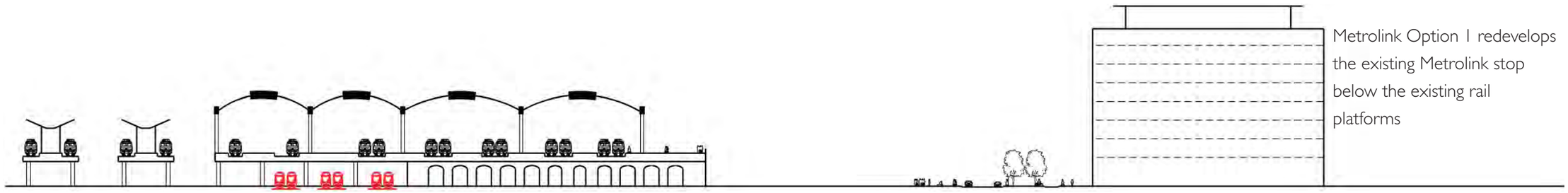
The majority of the existing station is unaffected with only small areas of demolition required

Cross Section Existing



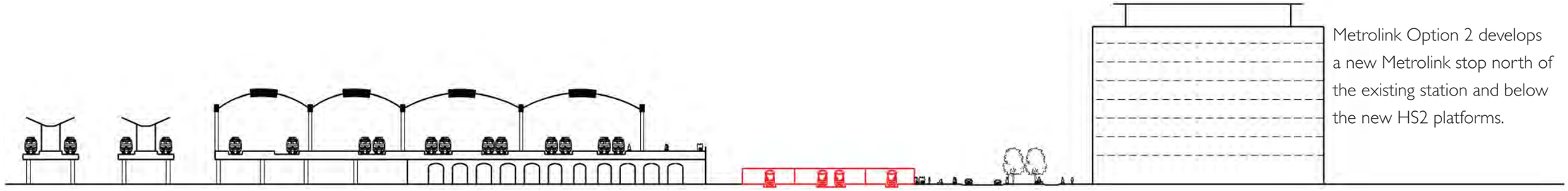
Northern Hub platforms, 15 and 16, will come online in 2018.

Cross Section Northern Hub



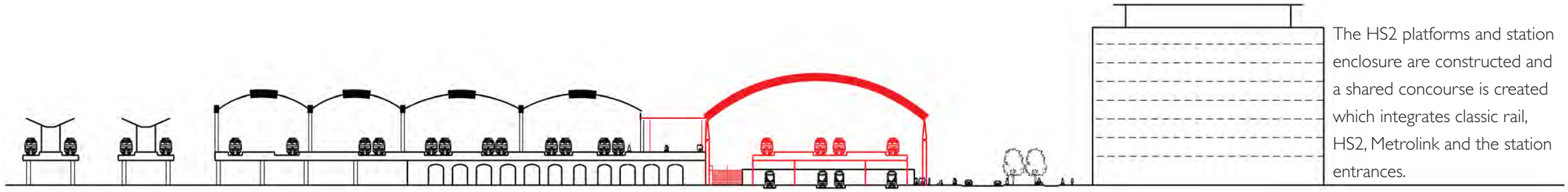
Metrolink Option 1 redevelops the existing Metrolink stop below the existing rail platforms

Cross Section Metrolink Option 1



Metrolink Option 2 develops a new Metrolink stop north of the existing station and below the new HS2 platforms.

Cross Section Metrolink Option 2



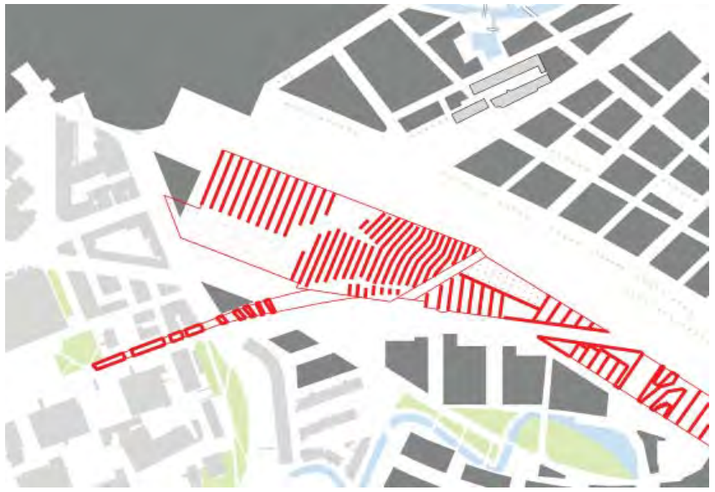
The HS2 platforms and station enclosure are constructed and a shared concourse is created which integrates classic rail, HS2, Metrolink and the station entrances.

Cross Section Metrolink HS2

The majority of the existing station is unaffected with only small areas of demolition required

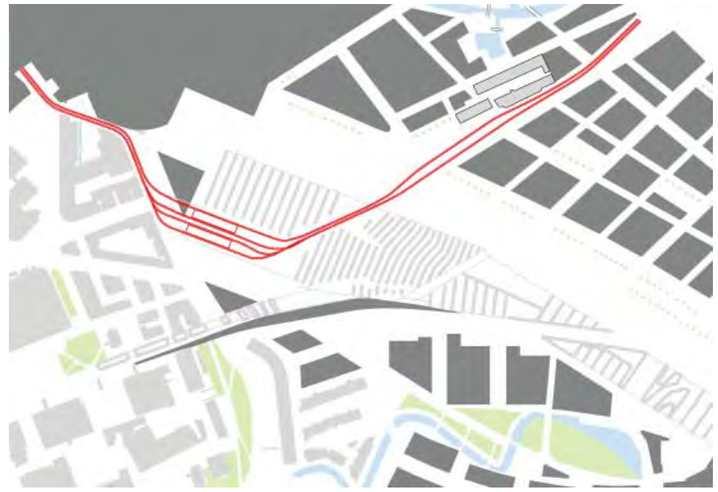
Northern Hub platforms, 15 and 16, will come online in 2018. Network Rail are presently undertaking a public consultation exercise on the Northern Hub works. The City and its partners are responding in detail to the consultation with a list of criteria which they feel must be met to maximise the regeneration benefits to the area around the station.

Metrolink Option 1 redevelops the existing Metrolink stop below the existing rail platforms

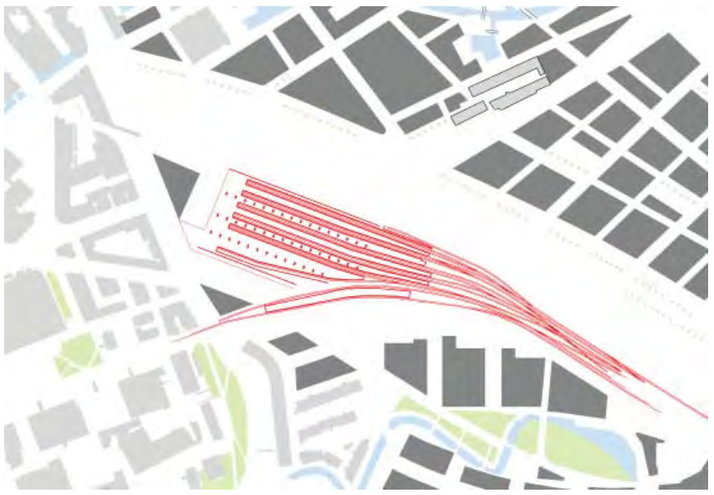


Lower Level - Retained

Lower Level - Northern Hub

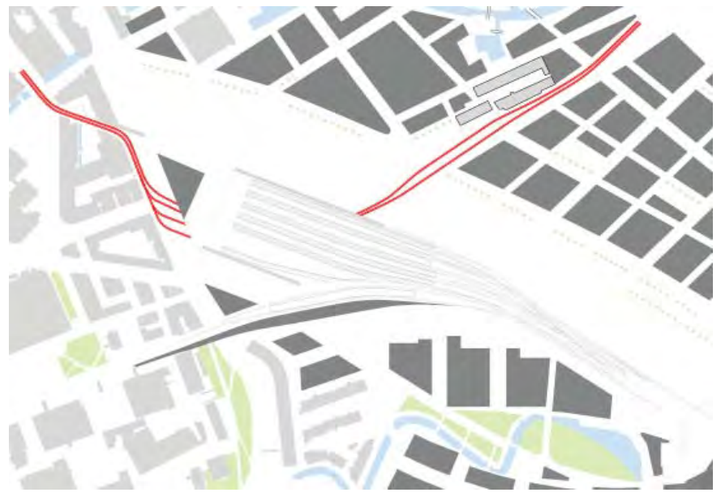


Lower Level - Metrolink Option 1



Upper Level - Retained

Upper Level - Northern Hub



Upper Level - Metrolink Option 1

Metrolink Option 2 develops a new Metrolink stop north of the existing station and below the new HS2 platforms.

The HS2 platforms and station enclosure are constructed and a shared concourse is created which integrates classic rail, HS2, Metrolink and the station entrances.

A 12 bay coach station is built below the HS2 platforms and is linked to the new shared concourse. Access to the coach station is from the Boulevard.

The existing overbridge is to be extended as part of the Northern Hub works and provision for the addition of an new station entrance from Mayfield is being made. The overbridge would also extend to the north giving access to HS2 and Metrolink Option 2.

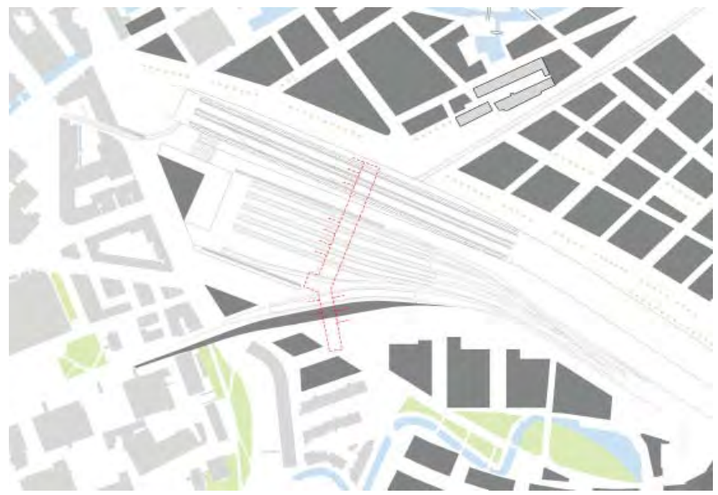
Lower Level - Metrolink Option 2

Lower Level - HS2

Lower Level - 12 Bay Coach Station

Upper Level - Metrolink Option 2

Upper Level - HS2



Upper Level - Overbridge

A new civic arrival plaza is formed outside the station at the junction of Piccadilly and the Boulevard

The combined entrance from the Plaza with HS2 platforms on the left and classic rail concourse up to the right

A shared lower concourse at the level of the Boulevard

The existing brick arches below the station are brought into beneficial use

Looking toward the entrance along the shared concourse

How Option 1 for the Metrolink Integration could be configured

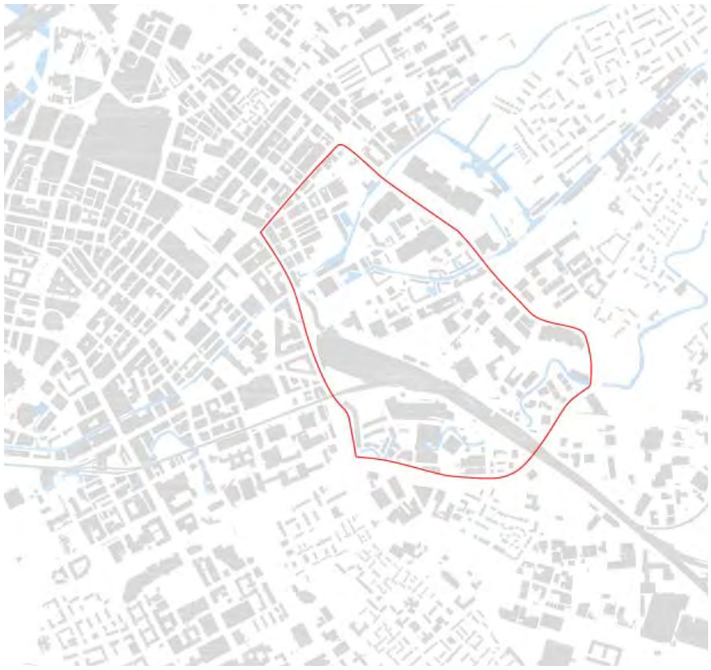
Key

1 Mayfield
2 North Campus and The Corridor
3 Piccadilly Station
4 Landmark buildings
5 Piccadilly North
6 East Village
7 New Islington
8 Piccadilly Central
9 New public park
10 London Road Fire Station

Background

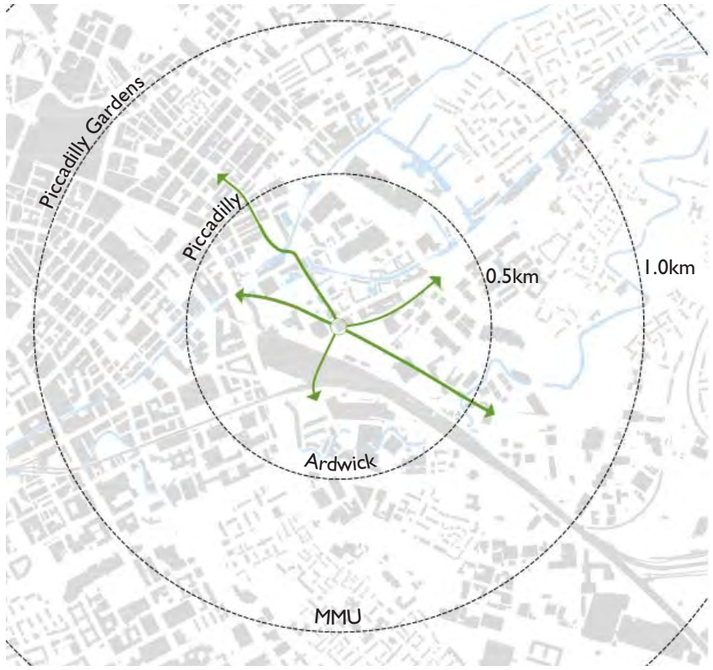
The proposals included in this report are predicated on an analysis of the existing urban context. The output of this analysis is illustrated in the following pages.

Urban Analysis: the City



City Grain

Districts



Destinations

Key

- Chapel Street, Salford
- Spinningfields
- Left Bank
- Castlefields
- Southern Gateway
- Birley Fields
- Millennium Quarter
- Retail Core
- Central Business District
- Peter's Field
- Chinatown
- The Village
- Knowledge Quarter
- Northern Quarter
- Piccadilly Gateway
- Ardwick
- Ancoats Urban Village
- New Islington
- Chancellor Place
- Great Universal Square

Transport

Key

- Road
- Metrolink
- Cycle route

Major Developments

Key

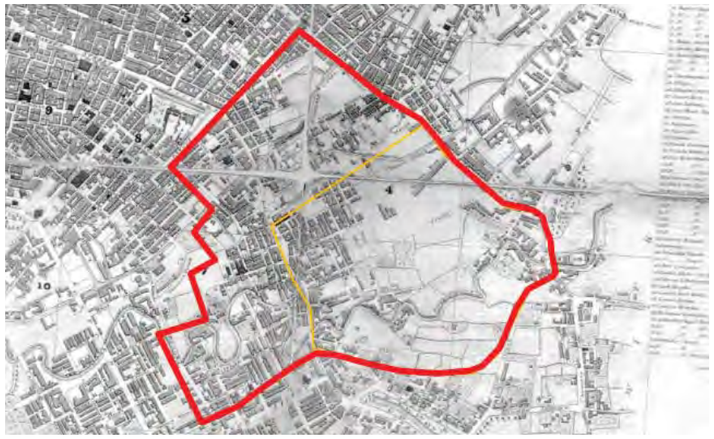
1. Chancellor Place
2. Central Spine
3. Spinningfields
4. The Co-operative
5. Piccadilly Place
6. Inacity Tower

Green Space, Hard Space and Water Bodies

Key

1. River Irwell
2. River Medlock
3. Rochdale Canal
4. Ashton Canal

Urban Analysis: Site History



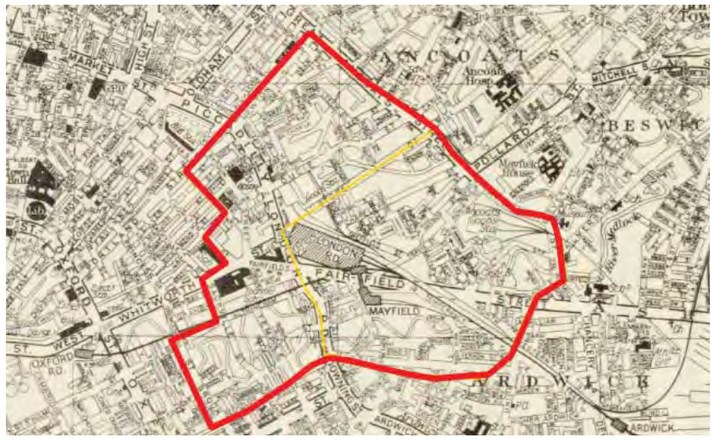
1824

1848

1870

1900

1904 (Housing Survey)



1960

Urban Analysis: Site Photographs

Rochdale Canal Basin

The Metrolink tunnel at Great Ancoats Street

Existing mill buildings to be retained

River Medlock concealed in an area of light industrial development

Existing rail viaducts and under developed land

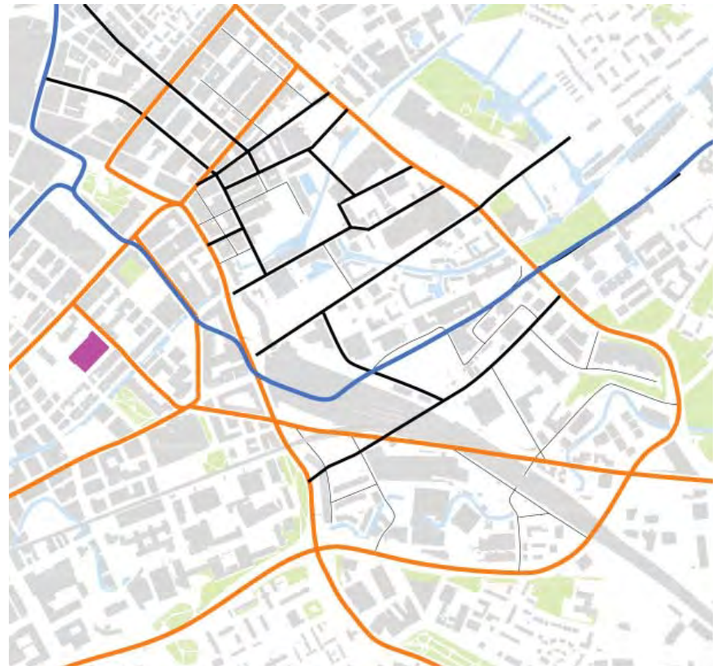
Urban Analysis: Site Factors

Uses

Key

Commercial
Residential
Mixed use
Parking
Community
Hotel

Environment



Road and Transport Network

Key

Metrolink
Existing Roads
Key bus routes
Existing coach station

Evaluation

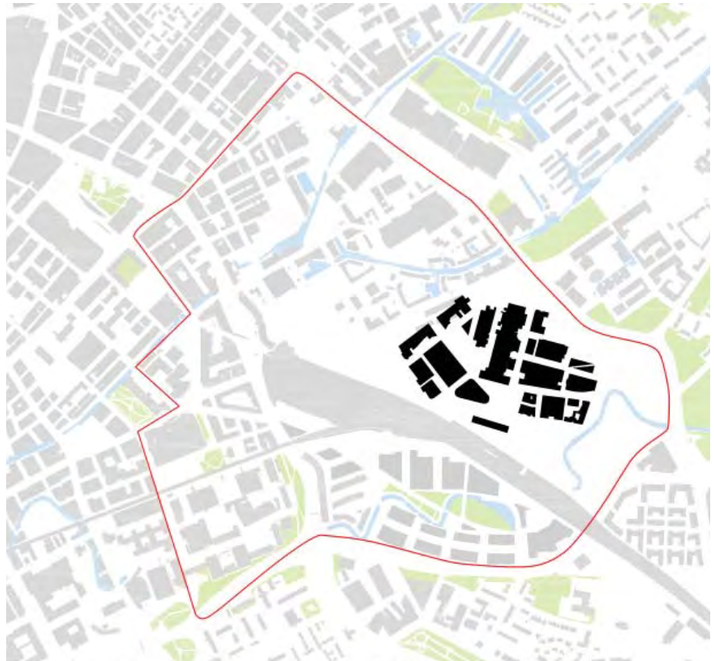
Grain - Arterial

Grain - Radial

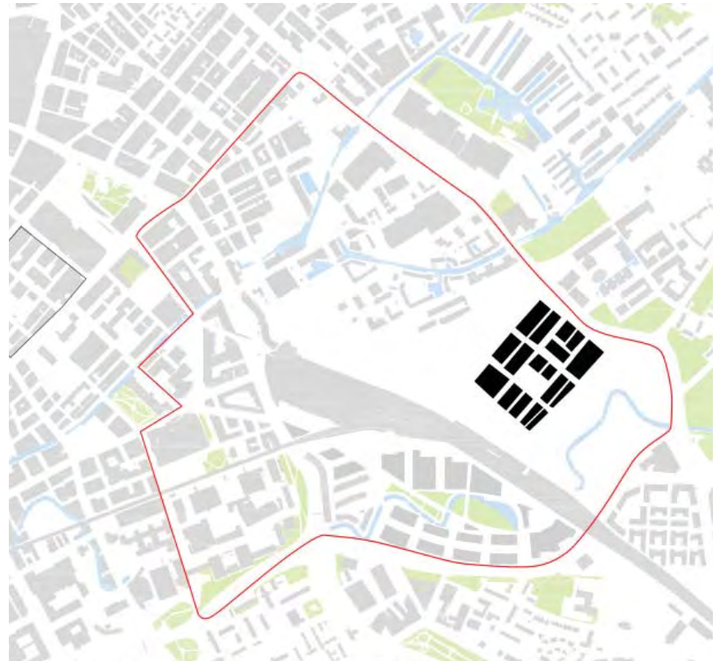
Grain - Implied

Evaluation

Scale Comparison, Kings Cross



Scale Comparison, Spinningfields



Scale Comparison, Historic Manchester Grid

Station Precedents

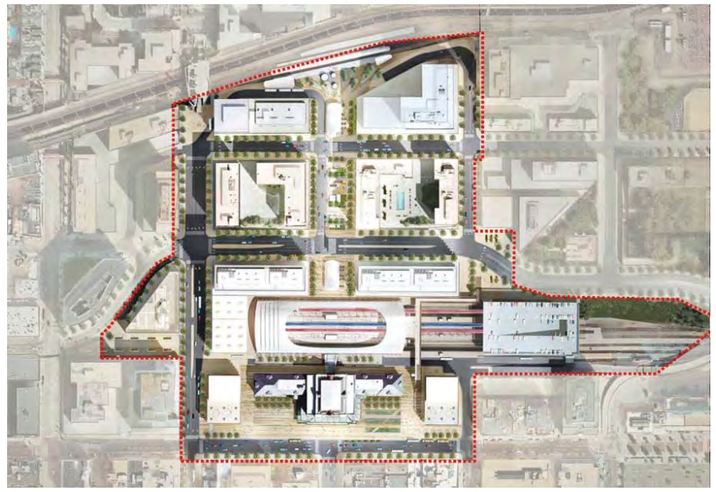
The modern rail transport hub exhibits the following qualities that the Manchester HS2 station should aspire to:

Regeneration catalyst and focus

High architectural quality
- distinctive identity
- akin to airport design
- echoing Victorian splendour
- generous spaces, legible circulation & use of natural light

Mix of uses and facilities
- extensive retail, bars, restaurants, leisure, markets
- hotels, conferencing, events

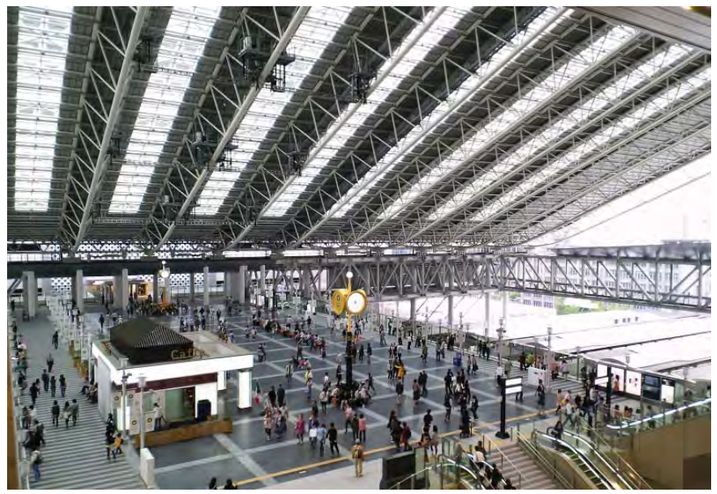
Intermodal connections
- close collocation and/or layering of buses, taxis, light rail, underground, coaches, bicycles
- generous parking

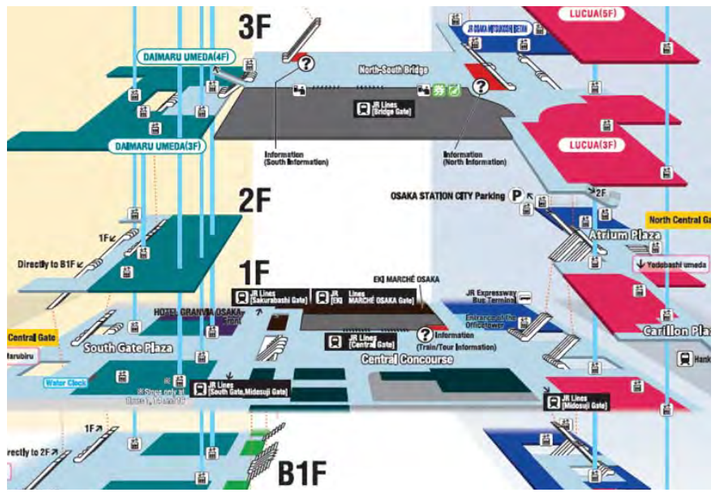


Union Station, Denver

The redevelopment aims to create a new multimodal transport district and a focal point of activity with a well thought-out public realm. The finished redevelopment will provide:

- A redeveloped station that restores its historic prominence as a gateway to Denver
- 8 rail tracks designed to handle 10,000 people an hour
- A relocated light rail system adjacent to mainline rail services
- An expanded regional and local bus facility located underground between the light rail and the historic station
- A reconfigured road network that prioritises pedestrian movements around the station
- Several new public spaces connecting the various station components





Osaka Station City

Shared by four rail companies with mainline and underground services, Osaka station receives 2.5 million commuters each day and is one of the busiest stations in the world. Construction is nearly complete on four new station towers that will transform the city skyline. The quantum of development totals 556,700sqm and includes offices, apartments, hotel rooms, restaurants, 180 shops, 80 food outlets and 8 new public plazas. It is also home to uses as diverse as doctor's surgeries, a wedding hall, a gymnasium and a department store.

Rail City and Europaallee, Zurich

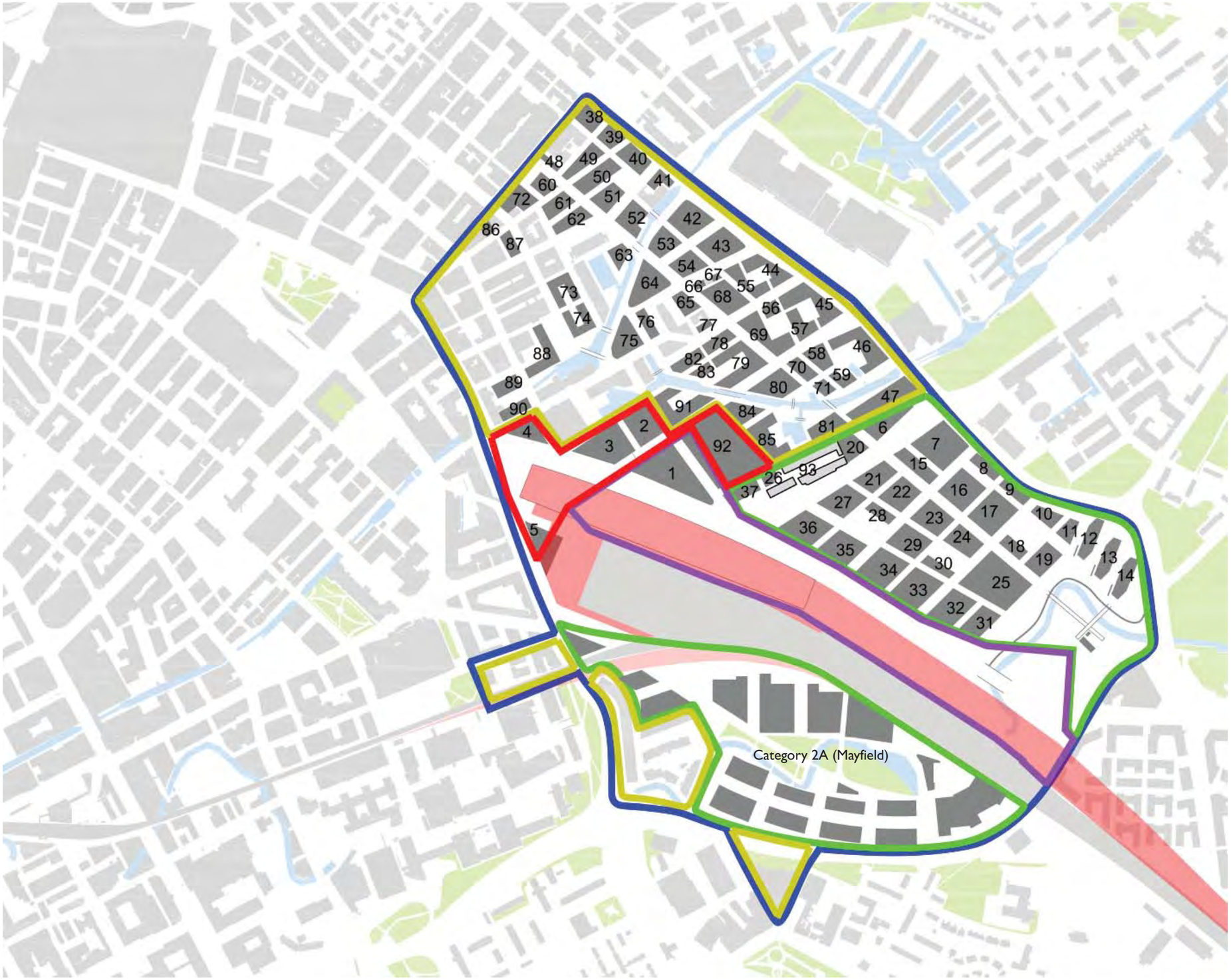
Formerly renovated from a terminus into a through station, Zurich Hauptbahnhof is one of the largest covered spaces in Europe at over 55,000sqm. Events take place year round including open air cinema, markets, skating, beach volleyball and concerts. Beneath the concourse one of the largest shopping centres in Switzerland is home to over 200 shops and businesses. It benefits from being associated with transport as this allows shops to be open 7 days a week creating a bustling atmosphere even while the streets of Zurich are empty. The area around the station is undergoing regeneration. Titled "Europaallee", the masterplan will create a new mixed-use inner city district and will generate approximately 6000 new jobs. The complete development will provide:

- 70,000sqm of office space
- 10,000sqm of retail space
- 40,00sqm for educational use
- 8,000sqm of residential property

Appendix

Area Schedule

The area schedule that follows references the development plots numbered on the diagram opposite. The schedules are a numeric representation of the proposals contained in this report. They are indicative in nature since the eventual mix and quantum of development will vary from the proposals.



The plots referred to in the following schedules are indicated on the plan above (refer to separate Mayfield report for detail of this area)

SUMMARY

Refer to drawings 1302(SK)0022 + 1302(SK)0020

By Category

	Ground Floor GEA Area m^2	Total Upper Floor GEA Area m^2	Total GEA Area m^2	Notes
Category 1A	4,800	43,200	48,000	Not including station and infrastructure
Category 1B	14,900	155,300	170,200	
Category 2A (Mayfield)			260,677	
Category 2B (Piccadilly Central)	57,300	445,669	502,968	
Category 3	62,930	295,620	358,550	New development only
TOTAL	**139,930**	**939,789**	**1,340,395**	

By Type (total for all categories)

	Total GEA Area m^2	Total GEA Area m2 at April 2013	Notes	Total No. of Parking Spaces	Total Residentail Units	Total Hotel Rooms	% of overall mix
Commercial	624,245	700,305					47
Residential	402,800	426,600			4,490		30
Retail / Leisure	49,896	65,941	Retail / Leisure is assumed to be 50% of the ground floor. The remaining 50% is balance /servicing space for the floors above. (Total GEA 98,492m^2)				4
Balance	49,896	65,941					4
Hotel	86,690	101,290				1,089	6
Community Use	23,168	14,000					2
Parking	103,700	78,800		4,857			8
TOTAL	**1,340,395**			**4,857**	**4,490**	**1,089**	**100**
	14,422,650 sqft						

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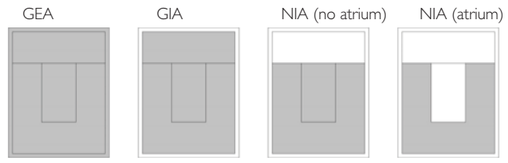
Buildings with a footprint of above 1,000sqm have been rounded to the nearest 100sqm.
Buildings with a footprint between 500 and 1,000sqm have been rounded to the nearest 50sqm
Buildings with a footprint less than 500sqm have been rounded to the nearest 25sqm
Buildings with a footprint above 2,000sqm with a deep floor plate have an atrium, calculated at 15% of the footprint.
For the purposes of the calculations no basements have been assumed.
The areas shown above are for guidance

GIA is 97.5% of GEA
NIA is 75% of GIA for Retail / Leisure, Residential, Hotel and Community
NIA is 80% of GIA for Commercial
Parking spaces are calculated at one space for every 30m^2 of GEA
New homes are calculated at one home for every 60m^2 of NIA
Hotel rooms are calculated at one room for every 80m^2 of GEA



Category 1A

Block	Total Number of Storeys	Ground Floor				Upper Floors										Total			Total No. of Parking Spaces	Total Residentail Units	Total Hotel Rooms
		Use	Area m^2 (GEA)	Area m^2 (GIA)	Area m^2 (NIA)	Use	Area m^2 (GEA)	Area m^2 (GIA)	Typical Floorplate m^2 (NIA)	Atrium	Typical Atrium Floorplate m^2 (NIA)	Storeys Above Ground Floor	Total Upper Floor Area (GEA)	Total Upper Floor Area (GIA)	Total Upper Floor Area (NIA)	Total Area (GEA)	Total Area (GIA)	Total Area (NIA)			
1	10	Retail / Leisure	4,800	4,680	3,510	Commercial	4,800	4,680		Yes	3,182	9	43,200	42,120	28,642	48,000	46,800	32,152			
TOTAL			**4,800**	**4,680**	**3,510**								**43,200**	**42,120**	**28,642**	**48,000**	**46,800**	**32,152**	**0**	**0**	**0**

Category 1B

Block	Total Number of Storeys	Ground Floor				Upper Floors										Total			Total No. of Parking Spaces	Total Residentail Units	Total Hotel Rooms
		Use	Area m^2 (GEA)	Area m^2 (GIA)	Area m^2 (NIA)	Use	Area m^2 (GEA)	Area m^2 (GIA)	Typical Floorplate m^2 (NIA)	Atrium	Typical Atrium Floorplate m^2 (NIA)	Storeys Above Ground Floor	Total Upper Floor Area (GEA)	Total Upper Floor Area (GIA)	Total Upper Floor Area (NIA)	Total Area (GEA)	Total Area (GIA)	Total Area (NIA)			
2	15	Retail / Leisure	2,000	1,950	1,463	Commercial	2,000	1,950		Yes	1,326	14	28,000	27,300	18,564	30,000	29,250	20,027			
3	15	Retail / Leisure	3,000	2,925	2,194	Hotel	3,000	2,925	2,194	No		14	42,000	40,950	30,713	45,000	43,875	32,906			525
4	20	Retail / Leisure	900	878	658	Hotel	900	878	658	No		19	17,100	16,673	12,504	18,000	17,550	13,163			214
5	12	Retail / Leisure	1,300	1,268	951	Commercial	1,300	1,268	1,014	No		11	14,300	13,943	11,154	15,600	15,210	12,105			
92	8	Parking	7,700	7,508	-	Parking	7,700	7,508	-	No		7	53,900	52,553	-	61,600	60,060	-	2,053		
TOTAL			**14,900**	**14,528**	**5,265**								**155,300**	**151,418**	**72,935**	**170,200**	**165,945**	**78,200**	**2,053**	**0**	**739**

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Buildings with a footprint less than 500sqm have been rounded to the nearest 25sqm
Buildings with a footprint above 2,000sqm with a deep floor plate have an atrium, calculated at 15% of the NIA.
For the purposes of the calculations no basements have been assumed.
The areas shown above are for guidance

GIA is 97.5% of GEA
NIA is 75% of GIA for Retail / Leisure, Residential, Hotel and Community
NIA is 80% of GIA for Commercial
Parking spaces are calculated at one space for every 30m^2 of GEA
New homes are calculated at one home for every 60m^2 of NIA
Hotel rooms are calculated at one room for every 80m^2 of GEA

218,200

By Type (Category 1)

	Category 1A	
	Total GEA Area m^2	% of overall mix
Commercial	43,200	90
Residential	0	0
Retail / Leisure	4,800	10
Hotel	0	0
Community Use	0	0
Parking	0	0
TOTAL	**48,000**	**100**

	Category 1B	
	Total GEA Area m^2	% of overall mix
	42,300	25
	0	0
	7,200	4
	59,100	35
	0	0
	61,600	36
	170,200	**100**

	Category 1A + 1B	
	Total GEA Area m^2	% of overall mix
	85,500	39
	0	0
	12,000	5
	59,100	27
	0	0
	61,600	28
	218,200	**100**

Category 2A (Mayfield)

Block	Floors	Floorplate m^2	Principal Use	Commercial m^2 (GEA)	Residential m^2 (GEA)	Retail / Leisure m^2 (GEA)	Hotel m^2 (GEA)	Parking m^2 (GEA)	Community m^2 (GEA)	Total m^2	Total No. of Parking Spaces	Total Residentail Units	Total Hotel Rooms
MAYFIELD	4-30	1,700-2,600	Residential	97,705	121,600	13,782	27,590	-	-	**260,667**	1,400	1,330	350

For more detail refer to report 1302(RP)001_HS2 SRF

Category 2B (Piccadilly Central)

Block	Total Number of Storeys	Ground Floor				Upper Floors										Total			Total No. of Parking Spaces	Total Residentail Units	Total Hotel Rooms
		Use	Area m^2 (GEA)	Area m^2 (GIA)	Area m^2 (NIA)	Use	Area m^2 (GEA)	Area m^2 (GIA)	Typical Floorplate m^2 (NIA)	Atrium	Typical Atrium Floorplate m^2 (NIA)	Storeys Above Ground Floor	Total Upper Floor Area (GEA)	Total Upper Floor Area (GIA)	Total Upper Floor Area (NIA)	Total Area (GEA)	Total Area (GIA)	Total Area (NIA)			
6	5	Retail / Leisure	2,100	2,048	1,536	Residential	2,100	2,048	1,536	No		4	8,400	8,190	6,143	10,500	10,238	7,678		102	
7	9	Parking	3,200	3,120	-	Parking	3,200	3,120	-	No		8	25,600	24,960	-	28,800	28,080	-	960		
8	12	Retail / Leisure	750	731	548	Residential	750	731	548	No		11	8,250	8,044	6,033	9,000	8,775	6,581		101	
9	14	Retail / Leisure	750	731	548	Residential	750	731	548	No		13	9,750	9,506	7,130	10,500	10,238	7,678		119	
10	15	Retail / Leisure	800	780	585	Residential	800	780	585	No		14	11,200	10,920	8,190	12,000	11,700	8,775		137	
11	15	Residential	700	683	512	Residential	700	683	512	No		14	9,800	9,555	7,166	10,500	10,238	7,678		128	
12	20	Residential	1,100	1,073	804	Residential	1,100	1,073	804	No		19	20,900	20,378	15,283	22,000	21,450	16,088		268	
13	25	Residential	1,100	1,073	804	Residential	1,100	1,073	804	No		24	26,400	25,740	19,305	27,500	26,813	20,109		335	
14	15	Residential	1,100	1,073	804	Residential	1,100	1,073	804	No		14	15,400	15,015	11,261	16,500	16,088	12,066		201	
15	9	Retail / Leisure	1,300	1,268	951	Commercial	1,300	1,268	1,014	No		8	10,400	10,140	8,112	11,700	11,408	9,063			
16	9	Retail / Leisure	2,400	2,340	1,755	Commercial	2,040	1,989		Yes	1,353	8	16,320	15,912	10,820	18,720	18,252	12,575			
17	9	Retail / Leisure	2,700	2,633	1,974	Commercial	2,700	2,633	2,106	No		8	21,600	21,060	16,848	24,300	23,693	18,822			
18	5	Retail / Leisure	700	683	512	Commercial	700	683	546	No		4	2,800	2,730	2,184	3,500	3,413	2,696			
19	9	Retail / Leisure	1,400	1,365	1,024	Commercial	1,400	1,365	1,092	No		8	11,200	10,920	8,736	12,600	12,285	9,760			
20	5	Community	1,300	1,268	951	Community	1,300	1,268	951	No		4	5,200	5,070	3,803	6,500	6,338	4,753			
21	9	Retail / Leisure	1,600	1,560	1,170	Commercial	1,600	1,560	1,248	No		8	12,800	12,480	9,984	14,400	14,040	11,154			
22	9	Retail / Leisure	1,700	1,658	1,243	Commercial	1,700	1,658	1,326	No		8	13,600	13,260	10,608	15,300	14,918	11,851			
23	9	Retail / Leisure	1,800	1,755	1,316	Commercial	1,800	1,755	1,404	No		8	14,400	14,040	11,232	16,200	15,795	12,548			
24	9	Retail / Leisure	1,500	1,463	1,097	Commercial	1,500	1,463	1,170	No		8	12,000	11,700	9,360	13,500	13,163	10,457			
25	9	Retail / Leisure	4,900	4,778	3,583	Commercial	4,165	4,061		Yes	2,761	8	33,320	32,487	22,091	38,220	37,265	25,674			
26	5	Community	380	371	278	Community	380	371	278	No		4	1,520	1,482	1,112	1,900	1,853	1,389			
27	9	Retail / Leisure	2,000	1,950	1,463	Commercial	1,700	1,658		Yes	1,127	8	13,600	13,260	9,017	15,600	15,210	10,479			
28	5	Retail / Leisure	660	644	483	Commercial	660	644	515	No		4	2,640	2,574	2,059	3,300	3,218	2,542			
29	9	Retail / Leisure	1,900	1,853	1,389	Commercial	1,900	1,853	1,482	No		8	15,200	14,820	11,856	17,100	16,673	13,245			
30	5	Retail / Leisure	650	634	475	Commercial	650	634	507	No		4	2,600	2,535	2,028	3,250	3,169	2,503			
31	9	Retail / Leisure	1,800	1,755	1,316	Commercial	1,800	1,755	1,404	No		8	14,400	14,040	11,232	16,200	15,795	12,548			
32	9	Retail / Leisure	2,400	2,340	1,755	Commercial	2,040	1,989		Yes	1,353	8	16,320	15,912	10,820	18,720	18,252	12,575			
33	9	Retail / Leisure	2,800	2,730	2,048	Commercial	2,380	2,321		Yes	1,578	8	19,040	18,564	12,624	21,840	21,294	14,671			
34	9	Retail / Leisure	3,100	3,023	2,267	Commercial	2,635	2,569		Yes	1,747	8	21,080	20,553	13,976	24,180	23,576	16,243			
35	9	Retail / Leisure	2,700	2,633	1,974	Commercial	2,295	2,238		Yes	1,522	8	18,360	17,901	12,173	21,060	20,534	14,147			
36	9	Retail / Leisure	3,300	3,218	2,413	Commercial	2,805	2,735		Yes	1,860	8	22,440	21,879	14,878	25,740	25,097	17,291			
37	5	Community	1,000	975	731	Community	1,000	975	731	No		4	4,000	3,900	2,925	5,000	4,875	3,656			
93	4	Community	1,710	1,667	1,250	Community	1,710	1,667	1,250	No		3	5,129	5,000	3,750	6,838	6,667	5,000			
TOTAL			**57,300**	**55,867**	**39,560**								**445,669**	**434,527**	**302,737**	**502,968**	**490,394**	**337,297**	**960**	**1,391**	**0**

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Buildings with a footprint less than 500sqm have been rounded to the nearest 25sqm
Buildings with a footprint above 2,000sqm with a deep floor plate have an atrium, calculated at 15% of the NIA.
For the purposes of the calculations no basements have been assumed.
The areas shown above are for guidance

1250

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NIA is 75% of GIA for Retail / Leisure, Residential, Hotel and Community
NIA is 80% of GIA for Commercial
Parking spaces are calculated at one space for every 30m^2 of GEA
New homes are calculated at one home for every 60m^2 of NIA
Hotel rooms are calculated at one room for every 80m^2 of GEA

By Type (Category 2)

	Category 2A		Category 2B		Category 2A + 2B	
	Total GEA Area m^2	% of overall mix	Total GEA Area m^2	% of overall mix	Total GEA Area m^2	% of overall mix
Commercial	97,705	37	294,120	58	391,825	51
Residential	121,600	47	114,100	23	235,700	31
Retail / Leisure	13,782	5	45,710	9	59,492	8
Hotel	27,590	11	0	0	27,590	4
Community Use	0	0	20,238	4	20,238	3
Parking	0	0	28,800	6	28,800	4
TOTAL	**260,677**	**100**	**502,968**	**100**	**763,645**	**100**

Category 3

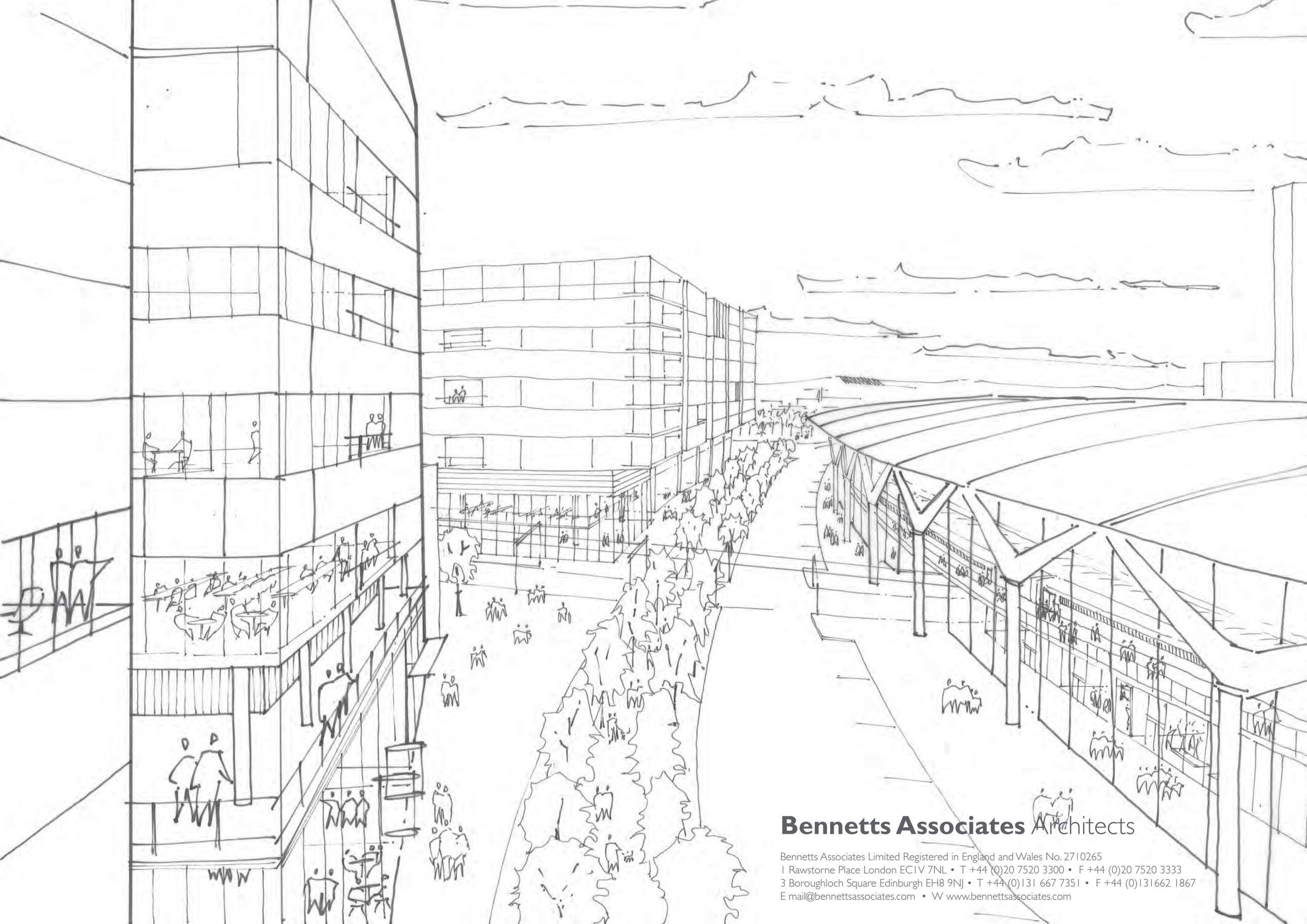
Block	Total Number of Storeys	Ground Floor				Upper Floors										Total			Total No. of Parking Spaces	Total Residentail Units	Total Hotel Rooms
		Use	Area m^2 (GEA)	Area m^2 (GIA)	Area m^2 (NIA)	Use	Area m^2 (GEA)	Area m^2 (GIA)	Typical Floorplate m^2 (NIA)	Atrium	Typical Atrium Floorplate m^2 (NIA)	Storeys Above Ground Floor	Total Upper Floor Area (GEA)	Total Upper Floor Area (GIA)	Total Upper Floor Area (NIA)	Total Area (GEA)	Total Area (GIA)	Total Area (NIA)			
38	6	Retail / Leisure	1,100	1,073	804	Commercial	1,100	1,073	858	No		5	5,500	5,363	4,290	6,600	6,435	5,094			
39	6	Retail / Leisure	850	829	622	Commercial	850	829	663	No		5	4,250	4,144	3,315	5,100	4,973	3,937			
40	6	Retail / Leisure	1,200	1,170	878	Commercial	1,200	1,170	936	No		5	6,000	5,850	4,680	7,200	7,020	5,558			
41	6	Retail / Leisure	600	585	439	Commercial	600	585	468	No		5	3,000	2,925	2,340	3,600	3,510	2,779			
42	7	Retail / Leisure	2,100	2,048	1,536	Commercial	1,785	1,740		Yes	1,183	6	10,710	10,442	7,101	12,810	12,490	8,636			
43	7	Retail / Leisure	2,100	2,048	1,536	Commercial	1,785	1,740		Yes	1,183	6	10,710	10,442	7,101	12,810	12,490	8,636			
44	7	Retail / Leisure	1,400	1,365	1,024	Commercial	1,400	1,365	1,092	No		6	8,400	8,190	6,552	9,800	9,555	7,576			
45	5	Residential	2,300	2,243	1,682	Residentail	2,300	2,243	1,682	No		4	9,200	8,970	6,728	11,500	11,213	8,409		140	
46	5	Residential	2,200	2,145	1,609	Residential	2,200	2,145	1,609	No		4	8,800	8,580	6,435	11,000	10,725	8,044		67	
47	5	Residential	2,300	2,243	1,682	Residential	2,300	2,243	1,682	No		4	9,200	8,970	6,728	11,500	11,213	8,409		70	
48	6	Community	280	273	205	Community	280	273	205	No		5	1,400	1,365	1,024	1,680	1,638	1,229			
49	6	Retail / Leisure	1,200	1,170	878	Commercial	1,200	1,170	936	No		5	6,000	5,850	4,680	7,200	7,020	5,558			
50	6	Retail / Leisure	1,600	1,560	1,170	Commercial	1,600	1,560	1,248	No		5	8,000	7,800	6,240	9,600	9,360	7,410			
51	6	Retail / Leisure	1,200	1,170	878	Commercial	1,200	1,170	936	No		5	6,000	5,850	4,680	7,200	7,020	5,558			
52	6	Retail / Leisure	1,400	1,365	1,024	Commercial	1,400	1,365	1,092	No		5	7,000	6,825	5,460	8,400	8,190	6,484			
53	7	Retail / Leisure	1,300	1,268	951	Commercial	1,300	1,268	1,014	No		6	7,800	7,605	6,084	9,100	8,873	7,035			
54	7	Retail / Leisure	1,200	1,170	878	Commercial	1,200	1,170	936	No		6	7,200	7,020	5,616	8,400	8,190	6,494			
55	7	Retail / Leisure	1,100	1,073	804	Commercial	1,100	1,073	858	No		6	6,600	6,435	5,148	7,700	7,508	5,952			
56	5	Residential	500	488	366	Residentail	500	488	366	No		4	2,000	1,950	1,463	2,500	2,438	1,828		30	
57	5	Residential	1,100	1,073	804	Residentail	1,100	1,073	804	No		4	4,400	4,290	3,218	5,500	5,363	4,022		67	
58	5	Residential	1,000	975	731	Residential	1,000	975	731	No		4	4,000	3,900	2,925	5,000	4,875	3,656		30	
59	5	Residential	500	488	366	Residentail	500	488	366	No		4	2,000	1,950	1,463	2,500	2,438	1,828		15	
60	6	Retail / Leisure	750	731	548	Commercial	750	731	585	No		5	3,750	3,656	2,925	4,500	4,388	3,473			
61	6	Retail / Leisure	1,000	975	731	Commercial	1,000	975	780	No		5	5,000	4,875	3,900	6,000	5,850	4,631			
62	6	Retail / Leisure	1,100	1,073	804	Commercial	1,100	1,073	858	No		5	5,500	5,363	4,290	6,600	6,435	5,094			
63	6	Residential	700	683	512	Residentail	700	683	512	No		5	3,500	3,413	2,559	4,200	4,095	3,071		51	
64	6	Retail / Leisure	2,200	2,145	1,609	Commercial	2,200	2,145		Yes	1,367	5	11,000	10,725	6,837	13,200	12,870	8,446		141	
65	6	Residential	800	780	585	Residentail	800	780	585	No		5	4,000	3,900	2,925	4,800	4,680	3,510		59	
66	5	Community	125	122	91	Community	125	122	91	No		4	500	488	366	625	609	457			
67	5	Community	125	122	91	Community	125	122	91	No		4	500	488	366	625	609	457			
68	7	Parking	1,900	1,853	-	Parking	1,900	1,853	-	No		6	11,400	11,115	-	13,300	12,968	-	443		
69	5	Residential	2,150	2,096	1,572	Residentail	2,150	2,096	1,572	No		4	8,600	8,385	6,289	10,750	10,481	7,861		131	
70	5	Residential	800	780	585	Residential	800	780	585	No		4	3,200	3,120	2,340	4,000	3,900	2,925		24	
71	5	Residential	400	390	293	Residential	400	390	293	No		4	1,600	1,560	1,170	2,000	1,950	1,463		12	
72	6	Retail / Leisure	1,300	1,268	951	Commercial	1,300	1,268	1,014	No		5	6,500	6,338	5,070	7,800	7,605	6,021			
73	6	Residential	1,100	1,073	804	Residentail	1,100	1,073	804	No		5	5,500	5,363	4,022	6,600	6,435	4,826		80	
74	6	Residential	1,100	1,073	804	Residentail	1,100	1,073	804	No		5	5,500	5,363	4,022	6,600	6,435	4,826		80	
75	6	Residential	1,700	1,658	1,243	Residentail	1,700	1,658	1,243	No		5	8,500	8,288	6,216	10,200	9,945	7,459		124	
76	6	Residential	700	683	512	Residentail	700	683	512	No		5	3,500	3,413	2,559	4,200	4,095	3,071		51	
77	5	Residential	250	244	183	Residentail	250	244	183	No		4	1,000	975	731	1,250	1,219	914		15	
78	5	Residential	800	780	585	Residentail	800	780	585	No		4	3,200	3,120	2,340	4,000	3,900	2,925		49	
79	5	Residential	2,400	2,340	1,755	Residentail	2,400	2,340	1,755	No		4	9,600	9,360	7,020	12,000	11,700	8,775		146	
80	5	Residential	1,900	1,853	1,389	Residential	1,900	1,853	1,389	No		4	7,600	7,410	5,558	9,500	9,263	6,947		58	
81	5	Residential	1,300	1,268	951	Residential	1,300	1,268	951	No		4	5,200	5,070	3,803	6,500	6,338	4,753		40	
82	5	Residential	800	780	585	Residentail	800	780	585	No		4	3,200	3,120	2,340	4,000	3,900	2,925		49	
83	5	Residential	400	390	293	Residentail	400	390	293	No		4	1,600	1,560	1,170	2,000	1,950	1,463		24	
84	5	Residential	1,100	1,073	804	Residential	1,100	1,073	804	No		4	4,400	4,290	3,218	5,500	5,363	4,022		34	
85	5	Residential	1,900	1,853	1,389	Residential	1,900	1,853	1,389	No		4	7,600	7,410	5,558	9,500	9,263	6,947		58	
86	6	Retail / Leisure	300	293	219	Commercial	300	293	234	No		5	1,500	1,463	1,170	1,800	1,755	1,389			
87	6	Retail / Leisure	600	585	439	Commercial	600	585	468	No		5	3,000	2,925	2,340	3,600	3,510	2,779			
88	6	Retail / Leisure	1,500	1,463	1,097	Commercial	1,500	1,463	1,170	No		5	7,500	7,313	5,850	9,000	8,775	6,947			
89	6	Retail / Leisure	400	390	293	Commercial	400	390	312	No		5	2,000	1,950	1,560	2,400	2,340	1,853			
90	6	Retail / Leisure	800	780	585	Commercial	800	780	624	No		5	4,000	3,900	3,120	4,800	4,680	3,705			
91	5	Residential	2,000	1,950	1,463	Residentail	2,000	1,950	1,463	No		4	8,000	7,800	5,850	10,000	9,750	7,313		122	
TOTAL			**62,930**	**61,357**	**44,628**								**295,620**	**288,230**	**210,749**	**358,550**	**349,586**	**255,377**	**443**	**1,769**	**0**

The areas should be treated as indicative only. Areas should be checked and verified by a qualified surveyor before being used for valuation or feasibility purposes.
Buildings with a footprint of above 1,000sqm have been rounded to the nearest 100sqm.
Buildings with a footprint between 500 and 1,000sqm have been rounded to the nearest 50sqm
Buildings with a footprint less than 500sqm have been rounded to the nearest 25sqm
Buildings with a footprint above 2,000sqm with a deep floor plate have an atrium, calculated at 15% of the NIA.
For the purposes of the calculations no basements have been assumed.
The areas shown above are for guidance

GIA is 97.5% of GEA
NIA is 75% of GIA for Retail / Leisure, Residential, Hotel and Community
NIA is 80% of GIA for Commercial
Parking spaces are calculated at one space for every $30m^2$ of GEA
New homes are calculated at one home for every $60m^2$ of NIA
Hotel rooms are calculated at one room for every $80m^2$ of GEA

By Type (Category 3)

	Total GEA Area m^2	% of overall mix
Commercial	146,920	41
Residential	167,100	47
Retail / Leisure	28,300	8
Hotel	0	0
Community Use	2,930	1
Parking	13,300	4
TOTAL	**358,550**	**100**



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